

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

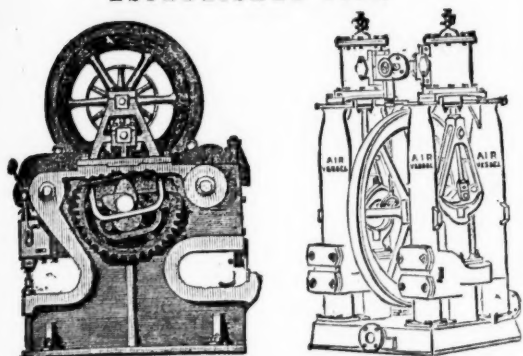
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No. 2152.—VOL. XLVI.

LONDON, SATURDAY, NOVEMBER 18, 1876.

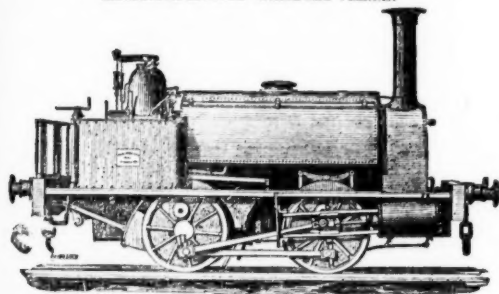
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PARIS,
BRONZE MEDAL, 1867.



ORDER OF THE CROWN OF PRUSSIA.



FALMOUTH,
SILVER MEDAL, 1867

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the
Geographical Congress, Paris, 1875—M. Favre, Contractor, having
exhibited the McKean Drill alone as the MODEL BORING MACHINE
for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland
Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecu-
tive weeks, ending February 7, was 24'90, 27'60, 24'80, 26'10,
28'30, 27'10, 28'40, 28'70 metres. Total advance of south head-
ing during January was 121'30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tun-
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sure was reduced to one-half atmosphere (7½ lbs.), showing
almost the entire motive force to be available for the blow
against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these
Machines for the SEVERN TUNNEL; the LONDON AND
NORTH-WESTERN RAILWAY for the FESTINIOG TUN-
NEL; and the BRITISH GOVERNMENT for several Public
Works. A considerable number of Mining Companies are now
using them. Shafts and Galleries are driven at from three to
six times the speed of hand labour, according to the size and
number of machines employed, and with important saving in
cost. The ratio of advantage over hand labour is greatest
where the rock is hardest.

These Machines possess many advantages, which give them
a value unapproached by any other system of Boring Machine.

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USE THROUGHOUT THE WORLD FOR MINING, TUN-
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The MCKEAN ROCK DRILLS are the most powerful—the
most portable—the most durable—the most compact—of the
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no weak parts—act without SHOCK upon any of the operat-
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Drill—may be worked at a higher pressure than any other
—may be run with safety to FIFTEEN HUNDRED STROKES
PER MINUTE—do not require a mechanic to work them—are
the smallest, shortest, and lightest of all machines—will give
the longest feed without change of tool—work with long or
short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or
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grit and accidents. The various methods of mounting them
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Has only two moving parts—thus ensuring freedom from de-
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Is excessively light, and can be carried by one man, who can
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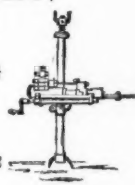
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DRESSING all METALLIC ORES. Dressing-floors having these Machines pos-
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- 1.—THEY ARE CHEAPER THAN ANY OTHER KIND IN FIRST OUTLAY.
- 2.—ONLY ABOUT ONE-FOURTH OF THE SPACE USUALLY OCCUPIED
BY DRESSING-FLOORS IS REQUIRED.
- 3.—FROM 60 TO 70 PER CENT. OF THE LABOUR IN DRESSING, AND
FROM 5 TO 10 PER CENT. OF ORE OTHERWISE LOST, IS SAVED.
- 4.—THEY ARE THE ONLY MACHINES THAT MAKE THE ORE CLEAN
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They have been supplied to some of the principal mines in the United Kingdom
and abroad—viz.,

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Darlington, Colberry, Nanthead, and Bollyhope; the Stonecroft and Greyside
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Duke of Buccleuch's); Bewick Partners, Haydon Bridge; the Old Darren, Esclair-
mwyn, and Ystumtuen Mines, in Cardiganshire; Mr. Beaumont's W.B. Mines,
Darlington; also Mr. Sewell, for Argentiferous Copper Mines, Peru; the Brats-
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America, and Australia, from all of whom certificates of the complete efficiency of
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WASTE HEAPS, consisting of refuse chatts and skimpings of a
former washing, containing a mixture of lead, blende, and sulphur,
DRESSED TO A PROFIT.

Mr. BAINBRIDGE, C.E., of the London Company's Mines, Middleton-
in-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly
profit on our Nanthead waste heaps amounted last year to £500, besides the ma-
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course, if it had been wholly engaged in dressing wastes our returns would have
been greater; but it is giving us every satisfaction, and bringing the waste heaps
into profitable use, which would otherwise remain dormant."

Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines,
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pleasure in stating that a full and superior set of your Ore Dressing Machinery has
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become smoother, and those in charge understand the working of the machinery
better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply,
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GREENSIDE MINE COMPANY, Patterdale, near Penrith, say—"The
separation which they make is complete."

Mr. MONTAGUE BEALE says—"It will separate ore, however close
the mechanical mixture, in such a way as no other machines can do."

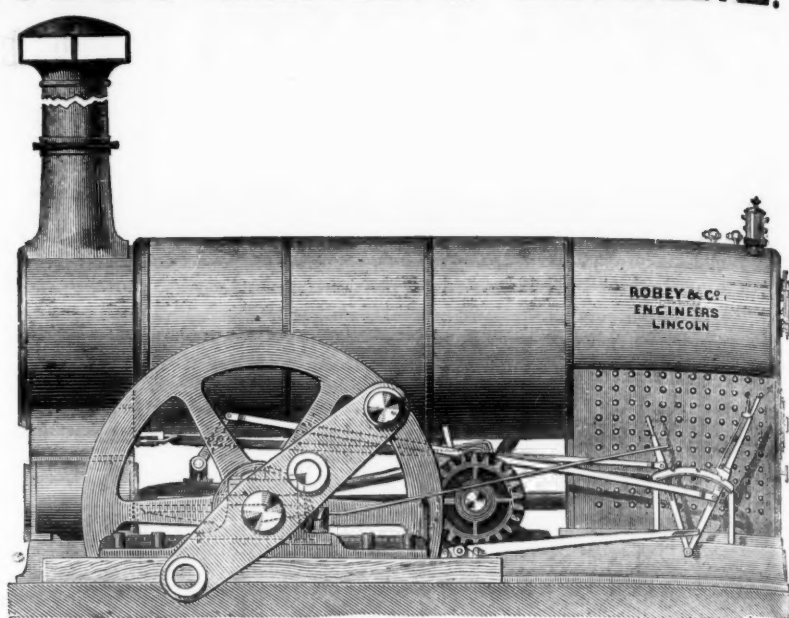
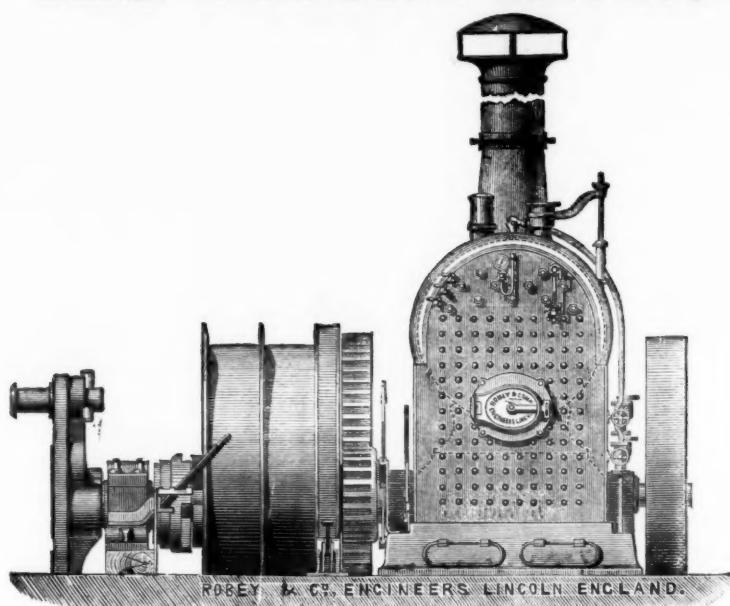
Mr. C. DODSWORTH says—"It is the very best for the purpose
and will do for any kind of metallic ores—the very thing so long needed for dress-
ing floors."

Drawings, specifications, and estimates will be forwarded on application to—
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Patent No. 4136
Patent No. 4150

Dated 16th December, 1873.
Dated 17th December, 1873.

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MANUFACTURERS OF

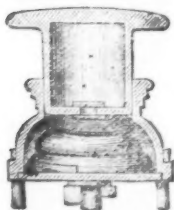
CAST STEEL FOR PUNCHES, TAPS, and DIES
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CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and

FORGINGS OF EVERY DESCRIPTION.

DOUBLE SHEAR STEEL, T. TURTON
BLISTER STEEL, EDGE TOOLS MARKED
SPRING STEEL, WM. GRAVES & SONS
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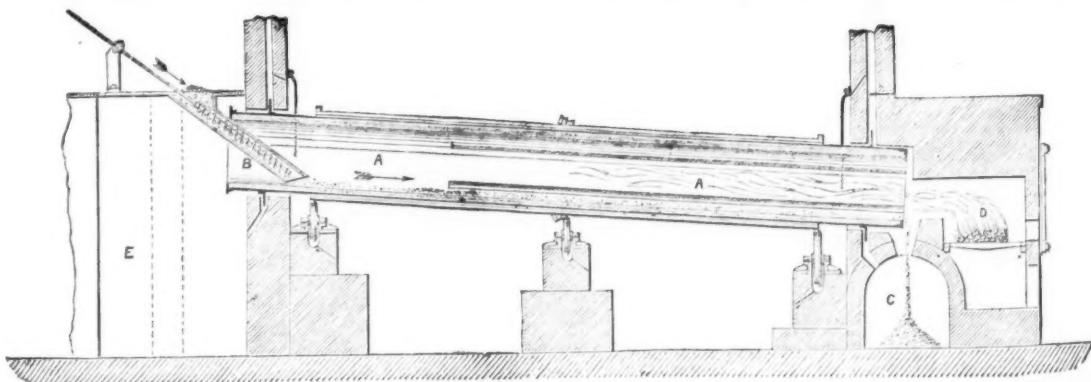
Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.



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For Roasting Ores containing Sulphur, Arsenic, and other Volatile Matters, have been supplied to some of the principal Mines in the United Kingdom and Abroad.

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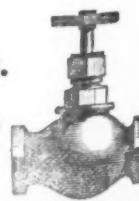
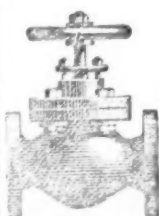
Improved Valves and Taps for Water, Steam, Gas, &c.

PATENT STEAM EARTH-BORING MACHINE

ENGINEERS and MACHINE MAKERS to CALICO PRINTERS, BLEACHERS, DYERS, and FINISHERS.

SALFORD IRONWORKS, MANCHESTER,

PRICES AND PARTICULARS ON APPLICATION.



Original Correspondence.

ON THE DEPRECIATION OF SILVER.

SIR,—The present depreciation of silver is no doubt owing to the numerous discoveries of lodes of this metal, especially in the north-western part of this continent. This has been the principal—though by no means the only—cause of the reduction of the exchange value of this one of the precious metals; to it may be added the many recently discovered mechanical facilities for the extraction of the ores from these lodes at a rate and in quantities formerly unattainable, nor do such extraordinary supplies now, as formerly, linger in or near the localities where they are brought to the surface, but owing to the actual rapidity of international communication speedily find their way to the principal markets of the world, there to be exchanged for the commodities wanted to supply the demands of an extensive and continually advancing civilisation. Moreover, the process of the separation of the silver from its ores has reached a degree of perfection formerly unknown. The ore is now so soon out of the ground than the silver is separated from its matrix, and forthwith coined into dollars to swell the amount of an already over abundant circulation. The quantity of silver now brought to light as a secondary product is beyond all precedent. All the baser metals are, so to say, sifted in order to extract the smallest particles that they may contain of this more precious product. Copper, tin, bismuth, antimony, &c., each of which gives its quota to this supply. The pyrites, imported for sake of their sulphur, are not thrown aside till they have also delivered up the silver they may contain. Lead, again, is to a great extent mined, not so much for its own value as for that of the silver that it is now known always to contain, while the separation of these two metals is made remunerative by means of Pattison's and other relatively new and simple processes. It will not escape the observation of those interested in these matters that by a peculiarity of these secondary products any increase of the demand for the baser metals becomes the cause of an increased product of silver, irrespective of any demand for the latter. Years ago rich lodes of silver were known to exist in deserts, where the yearly rainfall may be measured in decimals of an inch, and where consequently neither an insect nor a blade of grass is to be seen, but to what purpose? To be talked about! Of what use were, then, the mechanical facilities for working lodes so situate? Where could the desperate adventurers, anxious to penetrate the desert, have then found capital for such an undertaking? Few people are yet aware how much all this has been changing during the last 25 years, or by what magic power. Capital that may well be said to "make the world go round"—at any rate, it has changed the face of this part thereof by carrying to the depths of these deserts and to the heights of the snow-crowned cordillera of the Andes that overlook them all such of the latest inventions of civilisation as can be utilised in the exploration of silver mines, so that a rich lode is now so soon discovered than, be it situated where it may, shafts are dug and adits and galleries are driven underground into the hills, and silver ores sent down to some new port on this western coast of America.

The sea supplies water; from this the salt is extracted on the coast, and the fresh liquid sent to the extremities of the desert in the return vehicles that have brought, and continue to bring, down the ore, either for amalgamation or for shipment. The writer has seen in the desert of Atacama of Bolivia the rays of a never clouded sun, employed to distil from the saline springs of the desert ample supplies of fresh water both for man and beast. Steam-engines are now at work both for lifting from underground and for crushing on the surface the ore raised in localities so far from the coast that the coal for fuel costs, when delivered at the mines, some 100 Spanish silver dollars per ton of 2000 lbs. Both on the coast and on other borders of this desert of Atacama are large and costly crushing-mills, with corresponding amalgamating machinery, driven by steam, for separating the silver from its matrix. In the desert itself, three days' journey from the coast, we find blast-furnaces for treating the argilliferous lead ores supplied with coke from England. Meanwhile, capital itself wanders at the actual abundant supply of silver, and is astonished at one of the results of the miracle that, in combination with an adventurous industry, it is itself now working.

Hence from this port of Callao, where, on this 25th day of July, 1876, I indite the present, we went a few days since some 130 miles by rail in a north-western direction, till on reaching an elevation of 15,650 ft. above sea level we entered a tunnel that landed us on the eastern side of the dividing ridge of the Andes, where the water-shed inclines to the east; 30 miles beyond this summit tunnel has this railroad already been carried to the argentiferous region of Cerro del Pasco, under which "cerro" (or mountain), as soon as the lines reach that district, it is in contemplation to drive an adit that will drain the whole of the mines situated there in, now flooded and at a standstill, so that even should the celebrated Comstock and other rich lodes in the north-western part of this continent give in, no renewed scarcity of silver need be anticipated. Of these and their abundance the writer knows nothing, except by hearsay; but as similar causes to those noted above have been and are now in operation there, a diminished supply of silver is unlikely, unless, indeed, by a freak of Nature some new and grand discovery of gold should call away the miners, and so leave those silver lodes unproductive for awhile for want of operatives. No doubt that many of the above causes appear to affect as much the supply of gold as that of silver, and are, therefore, no criterion of their relative costs and rate of production. For the exploration of the sources of each of these precious metals capital is required, but neither in like proportions nor of the same class. Silver mining, as we have seen, takes a large proportion of fixed capital, whilst, on the other hand, gold may be said to be, generally speaking, rather found than mined for, and requires almost an entirety of circulating capital in the shape of food for the operatives, animals to carry both to the diggings, as they are appropriately called, and many tools, besides some rough machinery for washing, not the ores, but the auriferous sands.

Gold not being easily oxidisable is found native as a metal wherein it differs from silver, as also from the baser metals. Without water for washing the sands gold cannot be remuneratively collected; it does not pay even to pick up in such deserts as those of Atacama, where silver is mined for on an extensive scale. Except in such extraordinary cases as those of the Californian and Australasian discoveries, gold finding cannot be made remunerative where provisions are scarce, and wages consequently high. The most miserable populations on this continent are those where provisions are comparatively abundant, and where the majority eke out a bare subsistence by washing the auriferous sands. The discrepancies in the various items that make up the cost of production of these two precious metals in almost exclusive use as coinage are well worth studying. No doubt gold is as often had as a secondary product during the treatment of the baser metals, but we believe in a lesser ratio (than silver) to its more direct production. But the relative values of gold and silver appear not so much to depend on their relative costs of production as on reciprocal and international demand, to the consideration of which we will henceforth confine ourselves.

Previous to the great Californian gold discovery there appears to have been an abnormal scarcity of that metal, which had caused a fall in the prices of many of the principal articles of international commerce, to the prejudice of speculators in general; this, to them most opportune discovery of the metal that they were bound to find in sufficient quantities to pay their outstanding debts, caused a general rise of prices, and thereby enabled many parties, who would otherwise have been defaulters, to meet their engagements. The sudden abundance of gold had a precisely similar effect on the commerce of the world that a depreciation of currency has on any particular State.

The Australasian discoveries, following close upon those of California, kept up by an increased yearly supply of gold the general prices of commodities, but though the normal yearly supply of this metal remains much in advance of what it was previous to the annexation of California to the United States, it does not, we opine, suffice for the augmented demand of a constantly increasing international commerce. Gold, on account of its portability, is specially fit for the circulating medium of the world, while silver finds its more appropriate employment in ministering to the exigencies of

internal commerce. According as one of these two branches of commerce may increase relatively to the other by so much will the demand for the special medium that is called for to sustain it surpass the demand for the medium that sustains the other relatively stationary branch. What may have happened is that since the date of the Californian gold discovery international commerce may have increased, and continue to increase, in a greater ratio than internal commerce, and consequently that the demand for gold may have so far outrun the demand for silver that, even had the supplies of each metal been in due normal proportion, still, under this hypothesis, gold behoves to be scarce, and silver, as it usually is, relatively abundant.

During the last 20 years the capital of the world has more than doubled, and both internal and international commerce may, perhaps, have increased in due proportion thereto, though as far as regards increased activity international commerce has, at any rate, much more to show. By means of ocean steamers and ocean telegraphs—neither of which were in existence prior to the Californian gold discovery—this capital is now made to circulate at least twice its former rate. Continual settlements, asked for by ocean telegrams, and responded to instantaneously by remittances of gold in ocean steamers, cause an unprecedented activity, and require a supply of gold coin and bullion not formerly dreamt of. Silver is too bulky and altogether too slow for such requisitions. Such being the case, the change in Germany from a silver to a gold standard, by bringing matters to a head, caused a divergence of the relative value of these two metals as sudden as it is anomalous.

As regards this matter of a standard of value, in this, as in all other matters, "honesty is the best policy," therefore the most politic standard of value is that which, in the absence of any real measure thereof, gives, by the closest approximation to reality, the greatest possible measure of justice both to creditors and their debtors. It is but just that debtors should be obliged to refund the full value of their loans, but as we are unacquainted with any perfect measure or unvarying standard of value, it so happens that by a return of the same quantity of gold—or, indeed, of silver—nominally received, any debtor may, according to circumstances, be either favoured by a discount on value received, or, on the other hand, be obliged to return a higher exchange value than is due. We say advisedly nominally received, as all loans bearing interest are and must be not of cash, but of capital—i.e., of the general products of previous industry, or, as it is now termed, of purchasing power, of which the amount and standard of the coin noted in the bond are but a variable and defective measure. To the immediate conversion of the coin loaned into other commodities, both creditor and debtors are consentient parties, the mere stipulation of interest (in the bond) sufficiently proves this, as no one in his senses would borrow coin at interest in order to "fold the same in a napkin," that it might be forthcoming on demand of the master or owner. Any anticipated rise in the prices of general products that he hopes may lower the value of his borrowed purchasing power before it falls due is an inducement to the borrower to offer a higher rate of interest, which extra interest the lender naturally demands as his premium of insurance against the risk of such a possible depreciation of the coin which, in default of any more certain measure of value, he consents to accept in return for his capital loaned. If the debtor be allowed to refund either in gold or silver, as may best suit him, he will take the advantage of repaying his creditor in the one of these two metals obtainable at the least sacrifice, for which advantage he must conform to a still further rise in the rate of interest as an extra insurance for doubling, to the prejudice of his creditor, the risk from a naturally defective measure of value. On the other hand, if he (the debtor) agrees to repay his loan in gold alone, he thereby undertakes his full share of this risk, due to a defective measure of value, and ought not to be called upon for any extra interest as insurance. Therefore, in countries where a double standard allows the debtor a choice between these two metals we find that the rate of interest runs higher than in those where gold alone is the legal standard of value.

Let us suppose that in some remote part of the world gold should be discovered in such abundance as to bring down its ratio to silver to that of 1 to 12. Creditors holding bonds payable in pounds sterling would receive in gold the amount stated in the bond, but how as to the value thereof? All these South American Republics would in such cases easily pay their external debts, principal and interest, in gold, and would be boundly praised as faithful debtors. Say, again, that the actual depreciation of silver or scarcity of gold—call it which we may—should not only continue, but increase to a ratio of 25 to 1. Many of the debtors under obligations to pay in gold alone would, in this latter supposition, be forced to come to a compromise with their creditors, the majority of the mortgages on landed estates would be foreclosed, and the property sold for account of the mortgagees.

An enlightened Government will do all that lies in its power to eliminate, as far as may be, the gambling element from all mercantile transactions, and in no way can this be better effected than by an avoidance of all legalised risks. Commerce strives to avoid the evil by mutual insurance. Ask history what was the character of commerce and its votaries previous to the establishment of insurance companies? A variable measure of value is apparently unavoidable, and its risks natural. Legislation should, therefore, be careful not to augment them. As there neither is nor can be found any absolute standard of value, why seek for an approximate standard in one only of Nature's products, in gold alone? A more likely plan would be to look for such a measure of value in two or more products in well-selected proportions, as by means of a combination of brass and iron in our pendulums we have perfected our measure of time, so should we combine the more precious metals to improve, if not to perfect, our measure of value.

In lieu of debtors being obliged to pay in gold alone, or to pay either in gold or in silver, we can see no objection, in cases where no stipulation has been made to the contrary, to their being obliged to pay both in gold and in silver—say, one-half or two-thirds of their debt in gold, and the remainder in silver.

A double standard, but in duly selected proportions obligatory to the debtor, might perhaps prove a nearer approach to a correct measure of the normal value of general products, and to a rule of strict justice in all moneyed transactions, than any plan yet mooted.

I append the levels, &c., of the Callao and Oroya Railroad.

Distance from Callao in miles.	Stations.	Elevation in feet.	Feet per mile.
7 1/2	Callao	448	59.75
15 1/2	Lima	1,312	72.3
33 1/2	Santa Clara	2,800	99.2
44 1/2	Chosica	4,888	68
46 1/2	Cocachacra	4,905	161
51 1/2	San Bartolomé	5,840	187
55 1/2	Viaducto Agua de Verrugas	6,655	204
62 1/2	Suroco	7,789	174.3
69	Matucana	8,570	163.3
74 1/2	Tambo de Vaso	9,845	185.3
79 1/2	San Mateo	10,530	218.8
81 1/2	Puerto del Infinito	10,923	174.65
83	Puente de Ancho	11,300	177.4
86 1/2	Rio Blanco	11,543	181.35
104 1/2	Chicla	12,220	180.5
104 1/2	Summit Tunnel	15,645	251.4
119	Yauli	13,420	145.8
136	Oroya	12,188	72.45

Feet per mile to summit, 150.45; entire line, 89.61.

Callao, July 26. WM. A. WALKER.

MINING IN CALIFORNIA.

SIR,—The Salsberryville Mine, Tuolumne county, California, was held and worked by Mr. Donald Davidson, a Scotch gentleman, for many years. Mr. Inch superintended it for some considerable time, with success; but the officials who succeeded him were not so successful in their management of the property, but rather, it is alleged, committed a series of blunders, till 1871, when it was attached by the labourers, and sold under a sheriff's order to an English company, secured through Mr. Davidson, then in England. Unfortunately, the person who was appointed to the management under the English company was not successful in his efforts, and the company was worked by a continual drain of the English shareholders' pockets, and finally, when they considered they had spent sufficient in developing the property, they were informed that \$10,000 more were required. This demand brought Mr. Lechman to California. He

stopped the works, and discharged everyone, including superintendent and San Francisco agents, with the intention of selling the mines. Two experts were brought from Grass Valley to examine the mines, and they found, after a little prospecting, that the main and richest part of the vein was standing whole from the deepest point to the surface, with hundreds of feet of drifts, and more besides. Mr. Lechman at once appointed a Mr. Williams superintendent, with a staff of miners, and commenced working in earnest, and soon revealed that the property had been handled by men who appeared to be ignorant of their duties and responsibility. The first run at the mill cleared \$18,000, and is now yielding regularly \$25,000 a month, which returns a very handsome profit. This shows that the property had been managed by incompetent men, and was again verging on destruction when grasped by Mr. Lechman. Now, Mr. Editor, several mines under similar mismanagement have been abandoned as useless, and I will ask might not the same thing have occurred there? and are such men fit to be trusted with such responsible positions?—San Francisco, Oct. 23. A. MINER.

JAVALI MINE.

SIR,—The returns again are highly satisfactory, and somewhat exceed the monthly amount required to make up the 20,000*l.* a year which our directors said might enable them to pay a dividend. Therefore, let us hope that at the next meeting 1100*l.* will be devoted to pay us half a year's dividend of 6*l.* a share. This will amount to 10 per cent. on the market price of the shares. The probability that the tailing mill is now at work makes one anticipate that even larger profits will be announced by the January mail. BRIDE.

THE EXCHEQUER GOLD AND SILVER MINING COMPANY.

SIR,—Unlike Mr. Joy, I paid my own expenses to visit the Silver Mountain Mines, but not that I might instruct that gentleman in the rudiments of mining, concerning which he betrays—unwittingly enough—such lamentable ignorance; but it would be enlightening to the readers of the *Mining Journal* as to the value of his statements were Mr. Joy to supplement them with a list of his dealings in Exchequer shares a week before and a week after the meeting at Charing Cross Hotel. Mr. Joy, M.I.C.E., might also add the instructions (if any) he left with his broker in view of the publication of his letter. "The best designs of men and M.I.C.E. aft gang aje."

Every information will be at all times gladly communicated to bona fide shareholders—not, however, to a mere speculator in shares. Pinner's Hall, Old Broad-street, Nov. 14. F. W. MANSELL.

THE EXCHEQUER GOLD AND SILVER MINING COMPANY.

SIR,—Shareholders laugh at Mr. Joy, who then raves. My question was as unexpected by Mr. Syme as it was evidently embarrassing to Mr. Joy. The difference between "country rock" and lode was pointed out to Mr. Joy by a man underground—need another word be said? Sitting at a table near Silver Mountain, Mr. Joy transmits a telegram; sitting at another table in San Francisco, Mr. Joy repudiates his own telegram. In order to further perplex ordinary minds, Mr. Joy (sitting at another table) writes a report, which "no fellow can understand," stating that, "properly worked, Exchequer Mine is worth at least 1,000,000*l.* sterling." "Properly worked," means by Mr. Joy, who never before saw a mine! Luther, in a joyous mood, has compared the human mind to a "drunken peasant on horseback." Would that Mr. Joy had this commended to his consideration before losing his balance, thereby sparing him the humiliating disappointment of failure in effervescing endeavors to become the enfant terrible of the mining market. But "youth will have its fling."—City, Nov. 13. ALFRED PARRICK.

THE PESTARENA UNITED GOLD MINING COMPANY.

SIR,—Having just returned from North Italy, where I had an opportunity, through the courtesy of the Messrs. Taylor, of visiting the mines and works of the above company, of which they are the managers, perhaps the following sketch of their present condition and prospects may not be without interest to the shareholders, and to the general body of your readers.

The mines are situated in the Val Anzasca, which leads to the southern side of the far-famed Monte Rosa, and are divided into three groups or districts—Val Toppa, Battigio, and Pestarena, each district now having its own reduction establishment.

The chief establishment is at Piedimulera, a large village lying at the very entrance of the valley, and not quite one mile and a-half distant from the Simplon road. Here all the ore from the Val Toppa Mine is milled, and here reside the chief superintendent, Capt. Thos. Roberts, the accountant, Signor Menozzi, and the assayer, Mr. Wills. The Val Toppa Mine is perched up on the side of the mountain on the left as you enter the valley, and is upwards of 1600 ft. above the plains. From Piedimulera it is approached by a rough walk of about an hour and a-half, following a mountain path which winds round the head of the Marmazza valley. The mine itself contains five lodes, all more or less worked—the principal one, however, being the Great Quartz Lode. The other lodes are—the New Lode, which is 27 metres east of the Great Quartz Lode; the Flat Lode, which traverses the strata between the New and the Great Quartz Lode; the Western part of the Great Quartz Lode, which is 10 metres west of the principal lode; and the Marmo Rosso Lode. The last-named lode underlies west, the others east. Seven levels in all have been driven—the top one being denominated Zero. Then comes the Intermediate, being followed by Nos. 1, 2, 3, 4, and 5. All these levels, with the exception of the Intermediate and No. 1, are daylight or adit levels—so that the mine drains itself, and all the ore obtained in the upper parts of the mine is trammed out by levels Nos. 2 and 3, and tipped on to the picking floors, formed just outside their respective entrances. No. 4 level has been driven 454 metres into the mountain, and a new shoot of ore has been discovered; but as the work here is chiefly of an exploratory character no ore has as yet been taken out. No. 5 level has not been driven far enough to meet the shoots it is hoped here to intercept. The lodes are composed of white quartz, mixed with lead, blende, and pyrites, in which latter the gold is contained, free gold not often being visible. At the time of my visit there was a complaint of the scarcity of miners, there being employment for many more if they could have been obtained—the number of miners then at work was 89, and the grand total of all hands amounted to 155. The officer in charge of the mine is an Italian, who has been many years in the service of the company, and who acts under the direction and supervision of Capt. T. Roberts.

The transport of the ore from the mine to the mills at Piedimulera, costing as much as 4 fr. per ton, it is found necessary, for the sake of economy to sort it on the picking floors before mentioned, the poorer stuff being put into a pile to accumulate and to await the time when some cheap mode of carriage will render it worth bringing down. I was informed that if the cost of conveyance could be reduced to 2 fr. per ton every bit of ore might be brought down to advantage. The selected ore is trammed for a short distance from the floors to a shoot where the sleigh road commences. Here it is put on to sleighs, capable of containing 64 cwt., each, and run down by men to a shoot about one mile and a-half distant, whence, after having been weighed and passed down, it is carted to Piedimulera about two miles further. Two or three modes of easier and cheaper carriage have been suggested, but the want of money has prevented anything being carried out. A new road round the head of the valley has been talked of, and some system of wire-ropes across the valley has been proposed, probably similar to that now in operation near Belgrate, on the Lago Maggiore, and used for bringing sacks of peat down from the mountain top, the descending weight being the motive-power for an endless chain, which takes up the empties. However, whatever method be decided on, the sooner the shareholders provide the directors with the sinews of war the better it will be for them.

The reduction works at Piedimulera contains 20 Francfort mills, an improved sort of arrastre, driven by water-power. The water is derived from the River Anza, by means of a substantial and well-built water-course, 750 metres long, part being tunnelled through the solid rock. The stone-breaker, crusher, stamps, &c., are like-

wise driven by the same motive-power. Each mill during a run of 12 hours will reduce $\frac{1}{2}$ ton of ore, necessitating the use of 3 kilograms of mercury. The mill beds last about six months, on an average, during which time the millers or runners are generally changed four times. Some time ago experiments were tried stamping the ore with a couple of pneumatic stamps, and endeavouring to catch the gold in boxes filled with mercury placed in front, but although the stamps did very good duty as pulverisers, less gold was caught in the boxes than was anticipated. Either the gold was stamped too fine, and floated away on the top of the water, or it was not sufficiently cleaned of the rust to admit of the mercury seizing it. Experiments for concentrating the ore before milling have also been made by means of a round buddle and a Jordan's amalgamator, but up to the present time nothing has been found so good as the mills, their grinding and scouring action being proved to be the best and most efficacious for brightening the grains. When the accumulation of the poorer ores at the mine can be sent down cheaply it is thought that class might with greater advantage be stamped, and the sand concentrated, and then passed through the mills. The establishment possesses a blacksmiths' and carpenters' shop for doing necessary repairs, and the total number of hands employed is about 23.

That the Val Toppa Mine is a rich and valuable property may easily be inferred from the fact that the average yield of the ore milled at Piedimulera for the nine months preceding June 30 last was a little over 12 dwts. per ton, and the total quantity of gold obtained during that period was about 1785 ozs. Had the mine belonged to a separate company, and not formed part of the Pestarena Company's property, it would even now, with all its drawbacks, pay a snug dividend to the shareholders. As it is, the mine not only pays its own expenses, but also those of the Pestarena and Battigio districts, and there is sometimes a surplus profit remaining after that. If the Val Toppa Mine can do all that now, I leave the shareholders to calculate for themselves what the profit would be when an increased quantity of stuff is able to be sent to the mills by easier and cheaper transport, and an increased number of miners can be obtained. Mining wages are cheap here compared with those paid in England. Miners, who generally work on contract, earn on an average about 2 francs 25 or 30 centimes per day, and the girls and boys about 1 franc. I was pleased to observe that economy was strictly maintained in all departments, and that good arrangement made itself everywhere visible.

I hope in my next letter to give an account of the two remaining districts belonging to the company—Battigio and Pestarena.

Nov. 9.

SIMPLE PLAN FOR MAKING PEAT CHARCOAL.

Sir,—In West Cork, from time immemorial, country blacksmiths have been allowed as a perquisite to pick up all the small pieces of peat waste from the making up of peat stacks at the bogs by farmers and others. All the small pieces of peat are collected and laid in long narrow trenches, and then covered with soft peat or mud from the bogs. Fire is then applied, and the peat allowed to smoulder slowly until it is converted into peat charcoal. This is the whole of the process. I have often seen country smiths working common iron with this home-made charcoal, which they say makes it equal to best Swedish iron.—*County Cork, Nov. 14.* W. T.

PETROLEUM, AND COAL.

Sir,—It is somewhat singular with respect to the prophetic utterings of those gentlemen who from time to time draw the attention of the public to the period when in all probability our stores of fuel will be exhausted, and our prestige as the leading manufacturing centre of the world will be dissipated, that they have not deigned to notice the probable substitution of any other material in lieu of coal, of which at present we have such an abundance. All our great geologists, however, differ as to the time when we are likely to see our largest collieries closed, for it has been laid down that it is not possible to work in a mine at a greater depth than 4000 yards, and to reach that limit Prof. Stanley Jevons, I believe, gave us to about the middle of the next century, contending that coal being the chief source of power, and required for the extension of every industry, the consumption of it must keep pace with the increase of our population and the extension of our manufactures. Mr. Price Williams, who gave evidence before the Royal Commission, and which was quoted in the report, gave it as his opinion that all our available coal would only last about 360 years. These views are based on the assumption that consumption of coal will go on at the same rate it has done of late years, or without taking into consideration the diminishing ratio it will be used as it becomes scarcer and dearer, or that there will be any diminution in the quantity required for smelting and manufacturing, or that new appliances will be introduced for the purpose of superseding coal altogether for certain purposes. In 1796, according to Mr. Mushet, it required 9 tons 10 cwt. 24 lbs. of coal to produce 1 ton of pig-iron. Now the same work is accomplished with from 40 to 45 cwt. of coal, and there is every reason to believe that even that quantity will be seriously diminished, for we do not believe that science and inventive genius will stand still whilst our coal is being worked out. At the present time the deepest mine known is 3297 ft. from the surface, and there is no difficulty, we understand, in working it, and many of our ablest mining engineers consider that the temperature of a mine at a greater depth than 4000 yards could be considerably reduced by passing currents of fresh air at moderate velocities, and by injecting it on a large scale compressed very high, so as to be delivered in the working places a little above freezing point. These or other effectual means will, doubtless, be applied when the time arrives when such will be required.

It evidently never struck any of our geologists who have paid so much attention to the coal question that there was such a thing as petroleum that was capable of superseding coal for many purposes. Paraffins are found extensively in some kinds of petroleum, and in some instances are entirely composed of them, and are separated one from the other by distillation. These light paraffin oils are now commercially known as air-gas oils. From this gas is now being made by a patent process, giving a far more brilliant light than the coal gas, but, unlike it, it is entirely free from sulphur and disagreeable smell, whilst the slightest escape is easily made known. Now, as our present consumption of coal for the making of gas is nearly eight million tons a year, we have at hand a means of gradually dispensing with that quantity, without even calling into requisition artificial lights, such as the magnesium and lime light, which in time may play a not unimportant part in the lighting of our streets. But there are many other ways in which petroleum can be adopted instead of coal. There is no reason why it should not be made available for stoves and grates, as well as for the production of steam, even at a lower cost than coal. It is admitted that in a certain quantity of petroleum there is a vast deal more heat than in the same amount of coal, whilst it generates heat far more rapidly, and retains it three times longer. But it also has other advantages, for it is contained in much less room than coal, and is entirely free from soot. At the present time the oil is used for lamps and stoves in America, and is being extensively used in this country for making gas for small places and private buildings. It has also been tested in Russia for heating boilers, and has been most successful, being now used in the steamers plying on the Volga, and in that part of the world bids fair to supplant coal altogether, seeing that it is much cheaper. To vessels crossing the Atlantic and ocean steamers generally it would be most advantageous, not only for the extra room it would give for cargo, but from the actual cost, which would be at least one-fourth less than is paid for ordinary fuel.

As to the extent of territory in which petroleum is found, there is no data at hand, but it must cover an area of many thousands of square miles. One of the first places in Pennsylvania where it was worked comprised a block of land 118 miles long by 60 miles broad. Since then a very large addition has been made to the area in the State named, and so far back as 1871 there was exported to foreign ports from Philadelphia upwards of 50 millions of gallons, and it has been estimated by competent judges that Pennsylvania alone contains as much of the oil as would at the present rate of consumption supply the whole of the world for 100 years to come. Then there

are the wells of Canada, discharging volumes daily, whilst petroleum in vast quantities has also been found in Russia, India, Assam, and other countries as well, and new discoveries are still being made. Indeed, there is every reason to believe that the rock oil will be found in many countries where it has not yet been met with, and that the supply (unlike what is said of our coal) is almost inexhaustible. Our own imports of it during the present year have been at the rate of fully 8000 tons a month. There is, therefore, every reason for believing that petroleum will become more generally known in our houses, our manufactories, and on our railways and steamers than it is now, and that for economical reasons it will be adopted for many purposes where coal is now the only source of heat and light.

R.

SOUTH CONDURROW MINE, AND ITS MANAGEMENT.

Sir,—A month since a letter appeared in the Journal, signed "Interest," asking certain questions of certain parties on the present management of this mine. I presume he scarcely expected a reply; if so, he was more sanguine than the writer of this. The party who so interestedly rushed into print in favour of the late, and with as much interest abused the present management, with those of the shareholders who supported them, must ere this have seen their error; and "Interest" had better let bygones be bygones. If, however, he really wishes to know if they have been picking out the "eyes of South Condurrow," I can assure him, if he will visit the mine either alone or with his agent, every facility will be given them by Capt. Rich to go underground and judge for themselves. Should he, however, find this inconvenient, and will allow me to give him a bit of advice, he will just let the mine and its detractors alone. We have the right men in the right place, and hope the time is quickly coming when we shall be able to show them their services are appreciated. "Interest" says he is only slightly concerned in the mine, and before I conclude I will give him another word of advice—which is, that if he can find anyone foolish enough to part with their shares at present price to at once buy them, for I firmly believe the price of shares is, like the mine, only in its infancy, and he must be a bold man who dares say these shares are not destined to see 30s. each, for I believe we have one of the finest mines in England in South Condurrow.

London, Nov. 14.

ONE OF THE OLDEST SHAREHOLDERS.

LONGITUDINAL EXTENT OF LODES—CARDIGANSHIRE AND MONTGOMERYSHIRE.

Sir,—I must admit being in error, and that your correspondents "Cwmraeg" and "A. B. C." are right. I am aware that the lode worked on in Hyddgen was in their sett until it entered Cardiganshire, but thought that lode was the north and not the middle lode. I have made some enquiries as to the boundaries of the Hyddgen sett, and find it is much more extensive than I had any idea of; all the lodes seen in Llechweddmaur must pass through the south part of the sett, and it would be a splendid trial to drive a cross-cut north to intersect them. I was informed by a man I can rely on that some splendid stones of lead had been found on this part of the sett. I have no interest in pulling up Hyddgen, as I do not know even who the owner is. I think that owing to the want (absence?) of communication this part of the country has been sadly neglected by practical miners. I quite agree with "A. B. C." that as the Van lode is known to run nearly east and west on the Van Mine, and as a great lode is to be seen due west of it at Llechweddmaur and Drosogil, it is much more likely to be the Van lode than the other he mentions. I hope to see the Hyddgen proprietors find this lode in the south part of their sett, it certainly is well worth their notice; such a lode cannot but contain ore at some depth, though I admit it may require to be seen at a deep point before it is productive, but I fancy they have every facility for driving a deep adit from the south, and in the valley there is an endless and never failing supply of water. Now that, through the enterprise of Hyddgen, there is a good road we may expect to hear more of this locality in a mineral sense.

X. Y. Z.

CARDIGANSHIRE MINES, AND MINING.

IMPROVED DRESSING MACHINERY.

Sir,—Having in a letter which appeared in the Journal of Nov. 4 referred to the satisfactory results obtained by boring machines, and the stone breakers, wherever they have been tried in this county, I intend this week to call the attention of the mining community generally to the most important of all subjects we have to deal with, that of the most approved, the most economical, and finally the best method yet introduced for the cleansing of all kinds of metallic ores—the Patent Self-Acting Dressing Machinery. It is not too much to say that whoever has visited the mines in this county where this machinery has been put up have been unanimous in pronouncing it perfect. As manufactured by Mr. Geo. Green, of Aberystwith, the following advantages may be claimed for them. The work is turned out in the very best style, at an easy cost; they occupy so little room that everything is brought at once before the eye, and three-fourths of the space devoted to previous machinery is not required. Now, as the machinery is so arranged—and it must be seen to be perfectly understood, which I should strongly recommend every person to do who intends erecting dressing machinery of any kind and for every purpose—as to make the ore clean in one operation, it will be obvious to anyone acquainted with practical dressing that an immense saving of cost is effected by it. So much so is this the case, that where the ore formerly cost 20s. per ton it is now done for 5s., and at a similar ratio over and under these prices. I think it would be almost useless to point out to anyone who has given this subject mature consideration, that wherever ore can be extracted and made clean by one single operation, instead of being handled and re-handled and subjected to numerous washings, the saving must be immense, and although the patentees only modestly claim a saving of from 5 to 10 per cent. over the old mode of proceeding, I cannot but believe that were the results obtained accurately a saving of more like from 15 to 20 per cent. would be realised. These machines may be seen satisfactorily acting at the Old Ystumant Mine, about 9 miles from Aberystwith, in the valley of the Rheioil; at the Great Darnen Mine, about the same distance from Aberystwith, and at other mines in the county. That the machine is not only to be valued for its cheapness and the saving in expense of cleaning the ore must also be obvious to all who may have seen it in full work; in fact, the following statements which have in every instance been completely borne out, would of themselves testify that the "machine is perfect," for unless it were so it would be an impossibility to obtain the results from it. Lead is completely separated and cleansed from copper; copper is completely separated and cleansed; blende from sulphur, and the sulphur from every other refuse. Its action is entirely automatic; it takes the stuff immediately from the crusher, and classifies it as before stated, requiring only to be fed and removed. It may be well to state that by Green's patent the stuff passes from the crusher into revolving riddles, each covered with perforated iron plate. The stuff thus classified is received into jiggers, whilst the finer stuff is carried in launders direct to the bud lies. The jiggers are self-acting, and are worked by plungers; a suitable appliance is attached for regulating the stroke of each, whilst the buddles are worked as other ordinary buddles.

When we, therefore, look at what may be obtained by applying these machines to all mines, we must not only consider that a cost in labour of about 70 per cent. is effected, but a great saving also in the quantity and, I believe, the quality of the ore, and that where lead, copper, and blende have intimately blended together, generally two of the metals were entirely sacrificed to get at the third.

In conclusion, we have reason to be thankful that such vast improvements have been effected in this department; that by them alone many a mine that would have to succumb can now be profitably worked, and this and the improved rate for working mines, which will undoubtedly take place by the introduction of boring machines and stone breakers, will enable mines to work in future at one-third less cost than they have hitherto been worked, and will add that amount of profits to the non-dividend mines that may adopt them. I will now say, as Capt. Thomas said at Do'coath,

"Those who choose to cross the ocean in the old sailing craft may do so," but most people will choose a good steam-ship for doing so; and we may rely on it that the day is very close at hand when we shall see every well conducted mine with the Patent Self-Acting Dressing Machinery at work, as well as the Rock Drill and Stone Breaker.—*Goginan, Nov. 6.* ABALOM FRANCIS.

ST. AUSTELL CONSOLS.

Sir,—I was not aware till I received a note from a gentleman connected with this mine that upon the suspension of the works by the late company the property was purchased by another party, who are now working it, and that there are monthly sales of, I believe, about 5 tons of tin. The works are under the able management of Capt. John Nicholls. I hope that success will attend them.

Truro, Nov. 15.

R. SYMONS.

MINING REVIVAL.

Sir,—I am not a frequent correspondent of your Journal, but I recognise, *ex animo*, its ability, importance, and influence. I have always been impressed with the discountenance given in your columns to "croakers." When times are hard there are certain persons connected with mining both in London and the provinces who raise a cry as dolorous as an Irish kee at a funeral. They make no allowance for English enterprise and spirit; they do not take into account the power our capital gives us to hold on until circumstances readjust themselves or are readjusted, and they go about with the noise and solemnity of a bellman calling for a lost child. These persons effect immeasurable mischief; they actually deepen depression and postpone revival. You have given them some excellent lectures in your columns in your own quiet way, and I for one, holding exceedingly large stakes in mining properties, tender you my thanks.

As you predicted would be the case, a great recovery in the value of mining shares is taking place, but it will, no doubt, be agreeable to you that earlier than you predicted the good time has come round, and the good we see is merely an earnest of what we shall have. I agree with a contemporary of yours, which widely circulates, that "England must of necessity have played but a subordinate part in the commerce and politics of the world but for her mineral resources," and I feel that all mining men, whose interests you so well support, should openly express their approval of the way in which you have constantly upheld that doctrine.

It is remarkable that the general press, whether in "City Articles," "commercial secondaries," or "leaders," have very much ignored the relation which our treasures in metals and minerals bear to our prosperity; but a great alteration is taking place in this respect, and just now a daily journal, which is said to have "the greatest circulation in the world," has declared that the greatness of England depends upon "her peerless metallic and mineral resources, and her skill in utilising them." "She has beaten other nations in the race of wealth and power, in proportion as the exhaustless contents of her mines, and the unsurpassed efficiency of her mechanical appliances have placed her products in all markets above all competition." At the present juncture there is some stir about the alleged success of Mr. Bell, M.P., in producing iron of a quality which will supersede the rage for steel rails at present prevailing. For an additional price of 1d. per ton rails, according to this dictum, can be produced of fourfold capacity of endurance over the present iron rails, of greater endurance, therefore, than steel; and when the rails are worn out the value of them as old iron will be worth two-thirds at least of their original cost, whereas old steel rails are scarcely worth anything. I am not presuming to give you this as a piece of information, which, doubtless, has already reached you, but I venture to call your attention to the fact as subservient to our trade in all other metals. Cheaper and better iron, and cheaper and better rails, mean less expense and more efficiency in the working of tin, copper, and lead mines, and then cheaper carriage to the ports of debarkation. This, therefore, should be impressed upon the public as one of the signs of the times in relation to the upward movement of the metal markets. I am directly interested in mines for the superior metals, but sometimes in connection with them iron is found. Nobody thinks of Cornwall and Devon as iron-bearing regions, but excellent iron is found in both countries. Look, for instance, at the Bampfylde Mines in the latter county; they are ostensibly copper mines, with a large yield of manganese, but they are also productive of iron free from extraneous material than almost any other. They are situated near North Molton, and there are eleven iron lodes traversing the sett, yielding from 12 to 70 tons of rich iron ore per fathom, especially red and brown hematite. Taking all the productions of these mines into account, they are about the richest for general mining in England.

The fact should not be lost sight of in the mining interest that coal fields of immense area and value are opening up in various districts of England. "The croakers" who said our coal resources would be exhausted in a century are now on "the stool of repentance." Shropshire and Staffordshire have witnessed new discoveries, and the coal fields of Nottingham are fulfilling the predictions of the renowned George Stephenson, to whose genius coal mining in that county is so much indebted. Yorkshire is making prodigious yields of coal. Within four miles of Barnsley the new openings will yield 2½ million tons per annum: 111 new collieries being reported in last week's *Mining Journal* as having recently been set to work in that county. Now, Sir, that circumstance is of great importance to those interested in the superior metals. Abundance of coal is of prime advantage to the miner and the smelter, and enables the community at large to use more tin, copper, lead, zinc, &c.

The present upward movement in the metal markets is not simply due to speculation. Speculators are in the field, or, as we may say, on the flags, but there was room for them because of decreased stocks here and everywhere, but mining shares are rushing up under the purchasing power of the public.

The rise in tin is likely to be maintained, for stocks are low in England and Holland, and the Dutch sales will not take place until the 29th. In all probability tin will be more in demand than ever was dreamed of. An American invention casts by dies all volumes and calibres of tin vessels at once from a sheet of tin, avoiding solder and its noxious influence. Dripping pans and other large articles of tin can on the new process be thrown off at 12 a minute. In consequence, articles of this metal will be greatly in demand, and it will require our mining operations in Cornwall to be urged on with renewed and incessant energy.

One of the most remarkable commercial accompaniments of modern civilisation is the growing extent in which copper is used. The prejudice against it as a material for culinary vessels has ceased, and copper and tin together make a resplendent show in every kitchen in Europe. Yellow metal, bronze, sheathing, and the various modifications of brass, and of copper pure and simple, are coming into use with great rapidity. It is a matter of congratulation under such circumstances that the Devon Great Consols has risen from the dead with renewed vigour, and that a copper mine destined to rival it—Bampfylde—is now prosecuted with extraordinary skill, energy, and success. At the present rate for which shares can be purchased in this mine a fortune is within reach of every timely investor.

But lead is the metal of the period. Mr. Gladstone, at Barrow-in-Furness, said that King Cotton should give place to King Iron. Well, Queen Lead is on the throne now. The range of its use has widened to an extraordinary degree, and also of its offspring—pewter. The demand for "builders' ironmongery" causes amazement at present, and must enormously increase, and lead enters more largely than ever into the aggregate of metals required for building purposes. The people of England are, however, heavy importers of lead, while they have inexhaustible mines of it in Great Britain and Ireland. It is, therefore, agreeable to notice the opening of new mines, and the augmentation of progressive mines.

Chief among the latter we designate Llanrwst. This mine is the queen of a prolific district, the geological indications of which are always decisive of the presence of lead; and as the mine is worked it proves more and more of a treasure. All the spaces yet afforded for the deposit of lead on the surface are completely filled. Tremendous heaps of it are now presented on the ground, besides immense quantities broken down in the levels below, ready to haul

THE CHAIRMAN said the directors could have no objection to anything which the shareholders desired. In matters of this kind it was fair to point out that in doing so they had done the directors had acted in the best manner they could under the circumstances. It ought never to be forgotten that when this company was started everything in America was in magnificent condition, and everything was flourishing. There was no idea that the coal trade would diminish in importance, or that lumber trade either, and it was on the very day that he went to America to look at the property notice of the sudden collapse was telegraphed to Liverpool. No one could have foreseen the collapse which had occurred. It was a great calamity, but it was a great extent owing to the condition of things in America that these difficulties had arisen in connection with the company. The company was started with a fair prospect of success. When he went over there he saw it would be better to take another property, which they could get on reasonable terms. He took the responsibility of advising upon it, and acting upon it. There had been more money spent than the directors anticipated, and what involved additional expenditure.

was that the directors could not always get the money just as they wanted it. The railway also had cost more than was anticipated. All the money which had been raised had been spent on the legitimate objects of the company, and not a penny had been paid to any director except for the necessary travelling expenses out of their pockets. At the meeting of the shareholders from time to time everything had been fully explained to the shareholders, and there had been no reticence whatever on any point, but the fullest explanation had been given on all occasions. When they directed the present meeting they had no intention whatever of ignoring the general meeting, but there were some claims in America which were pressing, and there was a chance of raising the money required at the present time; and, therefore, the board had called the present meeting, because time was pressing, and it was important that the resolution should be carried as quickly as possible. He might mention that the directors had received 853 proxies, representing about 20,000, but of course the directors had no wish to use them to override the opinion of any considerable number of the shareholders. He might mention that nearly all these proxies were from A. shares.

In answer to a further question, Mr. TROUBEN said he had no doubt whatever as to the future of the company, and that this was the general opinion of the board was shown by the fact that the directors had all taken a considerable pecuniary interest in the company, and were willing to take a still further interest.

Mr. WILSON said he did not suppose that any shareholder would object to the reconstruction, the thing was to get it thoroughly and properly done.

Mr. TROUBEN also spoke in support of the proposed scheme of reconstruction, and in the end the resolutions were put and carried, it being understood that the confirmatory meeting will be held in about three weeks time, on the same day as the general meeting.—The meeting then broke up.

NEWPORT ABERCARN BLACK VEIN STEAM COAL COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, St. Mary Axe, on Tuesday.—The Rev. Mr. WARD in the chair—for considering and, if approved, passing the following resolution—"That the directors be empowered to raise such sum or sums of money as from time to time may be required, not exceeding in the whole 40,000, upon debentures payable to bearer, such debentures being a first charge upon the company's property (except subject to the charge of 4500, upon a certain small piece of land and cottages) on such terms as may be agreed upon."

Mr. A. F. WARD (secretary) read the notice calling the meeting.

The CHAIRMAN read the following report from the resident manager, Mr. J. T. Green:—

Nov. 6.—It is with much pleasure I have to report that excellent progress has been made with the sinking and other operations at the works since my last report, dated July 27 this year. We had then bored through the No. 3 colliery, and in a few days afterwards sunk through it. It proved of valuable seam, 37 ft. thick. Since July 27 we have sunk No. 1 pit down to a depth of 319 yards, or a distance of 54 yards. No. 4 seam was sunk through on Aug. 23, at a depth of 319 yards from surface, proving 3 ft. thick, of good quality, with a good roof of strong fine ground. No. 5 seam was proved at a depth of 328½ yards, nearly 2 ft. thick of good quality, strong roof, and with a valuable bed of fire-clay 4 ft. thick, lying immediately underneath. And on the 21st ult. the celebrated Black Vein seam was sunk through at a depth of 353 yards, proving 10 ft. thick, with a strong roof over it. This seam is hard, pure, and of most excellent quality, even superior to the same well known seam at Abercarn and Rhydyfelin. The dip is to the north, at the rate of 3½ in. to the yard. Nos. 2 and 3 shafts were idle at the time of my writing last report, No. 2 being down 212 yards from surface, and No. 3, 194 yards. We are now commencing to wall the unworked portion of No. 1 shaft (about 14 yards), and to build in the arches at Black Vein seam. When the arches are completed it will be necessary for us to sink the pit about 4 yards deeper for water storage room. We trust to be in a position to commence the headings or mainways in the Black Vein seam early next month. The Mines Regulation Act allows us to employ 20 men in each shaft only in making the requisite openings until a second shaft is put down to the seam.

It is very necessary, and, in fact, imperative—that a second shaft be completed to the Black Vein seam without delay. No. 2 shaft can be sunk and ready for use in about 10 months after re-commencement of sinking. A further period of two to three months will be required for the putting in of pumps, erection of pit-framing, and forming of pit bank at No. 1 pit, and then the colliery can be fairly started, and, I believe, be opened out equal to a total of 400 tons per day in three months from the latter date, and at this quantity the colliery will be self-supporting, providing the 45 ft. ventilating fan erected and worked when No. 1 pit commences drawing coal per day, and the full cost of 1000 tons per day can be risen in 12 months from the date of such commencement. A set of 400 tons per day can be risen at 6s. 6d. per ton, and the full cost of 1000 tons at 6s. 9d., including all charges at the pit's mouth. Providing it is put down to the Black Vein a further quantity of 500 tons of coal per day can be drawn from No. 3 pit. It can also be used for raising and lowering men and sending down pit wood. The system of working coal will be the "stall and pillar." I believe the whole of the coal can be removed at one operation, as the roof is a good one. Herewith Mr. Thomas and I forward an estimate of probable cost of completing the colliery. Mr. Thomas will report as to the progress made with the erection of machinery. A large additional number of houses will be required when the colliery is fairly set going, for the accommodation of the workpeople. The number already built is 65. Our sub-tenants—the Patent Nut and Bolt Company—are now working the Black Vein in the Celynen taking. I have recently visited the colliery and made an inspection of the workings, and am glad to report that the thickness and quality of the coal improves as they open into the property. In conclusion, please allow me to congratulate you upon the great success of your undertaking. It is most satisfactory that our section has agreed so closely with that of Abercarn, and tends to demonstrate that the valuable Black Vein seam proves well, and of this splendid thickness over your large mineral taking of 1200 acres.—J. T. GREEN, Manager.

The CHAIRMAN next read the following report from Mr. T. Thomas, the visiting engineer:—

Nov. 7.—In accordance with your request, I beg to submit an estimated cost of work to be done in completing Nos. 1 and 2 pits, and a statement of operations at the colliery during the past year, which I trust may meet with approval. The pumping-engine, which is 35-in. cylinder and 9 ft. stroke, was put to work on March 25 of last year, since which time it has worked efficiently and satisfactorily at 2½ strokes per minute; it clears the present get of water, but when No. 2 shaft is sunk to the Black Vein we may then anticipate a third more quantity, thus there is ample margin left for all contingencies which may occur hereafter.—Temporary Winding-Engines: These have been used since the sinking of the colliery, from the commencement to the present time, all of which are now in an efficient state of repair.—No. 1 Pit: The winding engine house, which is constructed of good and sound material, has been finished since my last report. The winding-engines, which are on the high pressure horizontal principle, consist of a pair of 35 in. cylinders and 6 ft. stroke, with drums 18 ft. diameter, are also finished, and when put to work are capable of raising from 1000 to 1200 tons of coal per day from No. 1 pit, which is about 353 yards from the surface.—Boilers: Six double-flued boilers, 30 ft. by 7 ft., and steam mounting, have been erected, and completed to drive both pumping and winding engines. Pileless framing and top winding apparatus for No. 1 pit will be constructed of wrought-iron on the box and lattice principle, the total height being 80 ft. from the ground line.—Screens: It is proposed to erect four improved coil screens for No. 1 pit, which will be got ready as soon as they may be required. No. 2 pit will take from 10 to 12 months to sink to the Black Vein, during which time the coal in No. 1 can be opened out. When new pithead framing and No. 2 pit is completed an output of 350 to 400 tons may soon after be realised from No. 1 pit. The Mines Regulation Act does not allow more than 20 men down at one time until No. 2 is sunk to the same depth as No. 1 shaft, hence a small output will be the result till a communication be made between the two pits.

Ventilating Fan: The fan will be that of Wadell's, 45 ft. diameter, fixed to ventilate through No. 2 pit, which will be used as an upcast for the whole colliery. The engine will also be made strong and substantial to drive the fan 32-in. cylinder 4 ft. stroke. To drive this engine it will be necessary to erect two double-flued boilers 30 ft. long x 7 ft. diameter, all of which can be prepared and got ready in ten months, by the time No. 2 is sunk to the Black Vein. In order to open out the colliery at once, a small ventilating fan has been ordered capable of producing about 24,000 ft. of air per minute, which will be kept at work until the fan is completed and set to work. Since the fan is well in hand, it can be completed to suit the requirements of the output from No. 1 pit.—Cottages: Since my last report we have erected and finished 15 more workmen's cottages which makes the total 65 now erected. These will all become tenanted as soon as the colliery is enabled to commence below upon the coal in No. 1 shaft.—Sinking: The progress made in sinking during the past 15 months has been exceedingly good, 220 yards having been sunk during that time. The Black Vein coal won at these collieries is without exception of sound and excellent quality, same thickness as at Old Abercarn. Permit me, therefore, to congratulate you upon the success which has thus far attended your efforts, and that when No. 1 pit has been practically opened out, the colliery will doubt prove most remunerative and profitable investment to the shareholders generally. Any further information you may require in connection with the colliery I will gladly communicate upon hearing from you.—T. THOMAS.

P.S.—Mr. Green, your manager, will report as to the thickness of coal, and underground requirements generally.

The CHAIRMAN said that the shareholders had heard the notice of the meeting, and the reports of, he might say, their diligent and efficient officers at the mine, and he should now be happy to receive, and where necessary to answer any observations which might be made, or any questions which might be put. In conclusion, the Chairman formally moved the adoption of the resolution given above.

Mr. RAIKES, M.P., in seconding the resolution, said he would not detain the shareholders with any lengthened observations, but it was impossible for the directors to meet them to-day without taking the opportunity of congratulating them upon the great reward which had at length crowned their efforts, and on the great success which had been fairly earned by very great patience and forbearance on the part of the shareholders and all concerned. (Hear, hear.) As they all knew, they had had to contend with very great difficulties and some disappointments. Some of the higher seams did not come up to the expectations which had been made, and he felt that he was expressing the feelings of his colleagues when he said he was sure the directors were deeply grateful for the sympathy which the shareholders had extended to them during a somewhat trying period, and he was very glad indeed to be able to congratulate the meeting on the success at which they had at length arrived. (Cheers.) Perhaps some gentlemen who might not have been at the former meetings might think it a matter of some little surprise that, at the moment of the first flush of success, the directors should be coming forward with a request for more money, but all gentlemen who had attended the meetings of the company would know very well the circumstances of the company. Some time ago it became evident to those who had followed the progress of the company that an addition of capital would be required to work the property, and the only question was whether they should ask for the additional capital before they had arrived at the Black vein, or whether they should go on expending capital until they had reached that, and then come and ask for money to work what they

had gained. He felt little doubt that every gentleman would see that although the directors had taken a bold course, yet they had taken the right course in waiting until they had proved the Black Vein seam before asking for borrowing powers, and of course money would now be obtained under easier circumstances than it would have been before the Black Vein seam was reached. (Hear, hear.) He was very glad to feel that the course which had been sometimes questioned, as to the discretion of the directors in expending money upon houses and out-door plant before they had reached the Black Vein seam, should now be proved to have been the right course, because it was evident they were now much nearer the tin when they would be able to work the property by thus having taken time by the forelock and erected all the necessary appliances. Although the directors took power to borrow on debenture an amount not exceeding 40,000, in the whole, yet he might state—and this was merely his opinion, although he believed it was shared by his colleagues—that, perhaps, they would not require more than half that amount to put the colliery in order and raise coal, but it would be injudicious not to leave a wide margin in raising additional capital. The fact that additional capital would be required must be well known to all gentlemen who had read the reports of the directors from time to time, but he believed that some little perplexity had been caused to some gentlemen as to why the directors came for the new issue of a loan, and why they did not go on the old borrowing powers previously granted with regard to the old building loan? (Hear, hear.) Well, he might explain that that loan was asked for a special purpose, and the directors had thought it right to keep that loan distinct from the loan now asked for, which was for the general purposes of working and developing the colliery. There was 4500, upon a small piece of land and cottages borrowed under powers previously given to the directors, and it was now proposed to borrow upon a whole property, which was the limited area which was borrowed upon in the first instance, and, therefore, the security given was infinitely better, and the money ought to be obtained upon proportionately better terms. He hoped that would be regarded as a sufficient and satisfactory explanation of the matter. (Hear, hear.) The manager's report stated that in something like twelve months they might hope to raise coal upon the very large scale which the directors in the first instance anticipated, and even upon a larger scale, because there was a prospect of 1500 tons per day, whereas they only calculated upon 1000 tons. The price of coal was lamentably below what it was when the company was started, but even at the present price of coal a very handsome profit would be made when the company is in a position to turn out 1000 or 1200 tons of coal per day, and it was very likely that circumstances which might tend to disturb some other trades might give an impetus to the sale of steam coal. They had fair reason for expecting that the price of the coal would be considerably better at the time when they commenced to put a large quantity out than it was at the present moment. (Hear, hear.)

Mr. CADICK asked whether it would not be better to issue some more shares? He thought the shareholders would be glad to take a certain number of shares, and raise the 40,000, in that way.

The CHAIRMAN thought there would be some difficulty in getting gentlemen to take shares at present at the same price as the old shares were taken at—10s., and it would not do to issue them at a discount. (Hear, hear.)

Mr. CADICK said he thought the coal could be raised much cheaper than at 6s. 6d. per ton.

Mr. RAIKES, referring to the suggestion of Mr. Cadick to raise the money on shares, said there was a great deal in the mind of the board that it would be hardly fair to existing shareholders that those who now came in should participate upon equal terms with those who risked their money in the heat of the day. (Cheers.)

Mr. GREENHILL said that before a final decision was come to with regard to the resolution he should like to say a few words. He knew a great deal about the colliery, he was a shareholder and took a great interest in it. He would begin by saying that they had had a wonderful success, and a great deal of that had been due to the promptitude, energy, and ability of Mr. Beynon, the manager, who had so ably met and overcome all the difficulties. The next question was how the original shareholders were to make up for the whole of the interest, and the delays as regarded the value of the money which they had at stake. He should like to elicit the opinion of the shareholders upon one other subject. When the prospectus was issued the shareholders were informed that three shafts would be necessary to carry out the business of the mine in a large and efficient manner. Now Mr. Beynon, having proved this vein, the shareholders would be acting detrimentally to their own interests if they did not continue the sinking of the two shafts simultaneously. They ought to develop the colliery as fast as they possibly and reasonably could, so that by the time they had sunk one shaft they would be sinking the other shafts in the meantime. They would remember that Mr. Thomas, the engineer, had stated that two shafts could be sunk cheaper by sinking them at the same time than by sinking them at different times, because the men would engage to do the work at a cheaper rate, they would have less difficulty in getting the water out, and the work would be done more easily. At the same time, as had been said, the No. 2 shaft had to go down to the Black Vein, or 12 months to reach the Black Vein seam, and be in a position to assist in carrying coal, and by that time No. 3 shaft would also be down. They must remember that they had spent 25,000, upon No. 3 shaft; did they intend to say that the No. 3 shaft was now to remain dormant after so large an amount had been spent upon it? It would be ridiculous for the shareholders to allow that shaft to remain dormant, whilst at the No. 3 shaft there was a magnificent winding-engine, and all appliances ready. The No. 3 shaft was quite half way down, and he contended that they ought to continue sinking that shaft, and as to the quantity of coal, it was simply in the hands of the shareholders, and as to the quantity of coal, it was simply in the hands of the shareholders, and as to the quantity of coal, it was simply in the hands of the shareholders. (Hear, hear.)

Mr. GREEN also, that they would engage after a certain amount of time, within, in fact, two years, to raise 1000 tons at least from No. 1 shaft, and 500 tons from No. 3 shaft, and in three years time the 500 tons from No. 3 shaft would pay for the development of all that shaft. Nothing could be better than the way in which the directors had carried on this business up to the present time; there was not a colliery which had the appliances which this colliery had in the whole of South Wales. There was no doubt that when the three shafts were developed it would be the finest colliery in England, and as to the quantity of coal, it was simply in the hands of the shareholders, and as to the quantity of coal, it was simply in the hands of the shareholders, and as to the quantity of coal, it was simply in the hands of the shareholders. (Hear, hear.)

Mr. WILSON: What might be the cost of working and developing the colliery according to your engineer—that is, in Nos. 1 and 2 shafts? I do not want the details, simply the totals.—The CHAIRMAN: The total amount is 25,918.

Mr. WILSON: That is leaving out No. 3 shaft?—The CHAIRMAN: Yes.

Mr. WILSON: What might be the state of your accounts at the present time?—The CHAIRMAN: We have about 25,000 in hand.

Mr. WILSON: That is absolutely nothing.—The CHAIRMAN: And there are some 100,000 in the bank.

Mr. WILSON said that was rather an important consideration. There was no doubt the proper way would be to let the two shafts go down simultaneously if they had the means. He must say the report was satisfactory as far as circumstances went, because it gave them a pretty good idea of what the future value of the property would be; but they had a little longer to wait, and he did not think it would be judicious or possible to raise money in any other form than that now proposed by the shareholders. They could not raise it by shares at a par when they could go into the market and buy shares at less than that amount; and he should certainly oppose the raising of a loan on a discount. (Hear, hear.)

The SOLICITOR: I question whether it is legal; certainly the point has not been decided.

Mr. WILSON: I do not think it would be policy to do so. You can raise the money on debentures, and you are offering a good security. The security is amply valuable enough to cover the debentures which we are asking for.

Mr. GREENHILL: I propose to make a partial amendment to your resolution, which I adopt entirely, but I propose to add to it—"That the sinking of the two remaining shafts be forthwith commenced and carried down, and that all appliances, machinery, and engines for the purpose of working the colliery and the raising of 1500 tons of coal per day, be completed by the time the two shafts reach the Black Vein seam."

The SOLICITOR said it was not necessary to add it to the resolution, as it could be dealt with separately.

Mr. RAIKES: It seems to me, as far as I can judge, that the directors fully agree with you in the proposal, and I am not, I think, saying too much when I state that you are only expressing the earnest wish of the directors. (Hear, hear.) There is no division of opinion upon the subject, but I would ask you whether you consider it necessary to state that in your report.

Mr. GREENHILL: Certainly not. After the expression which you have given of the views and wishes of the directors I shall be perfectly satisfied to leave it in their hands. (Hear, hear.)

Mr. RAIKES: I do not think I am saying too much when I state that the board are most desirous of seeing this carried out. (Hear, hear, from the directors.) I will not pretend to do it, but Mr. Greenhill may take that as our feeling.

Mr. GREENHILL said he thought there was one point which they ought to know, and that was on what terms the debentures were to be issued. He also thought that the debenture holders should not have the privilege of changing their debentures into shares at their own option, because he was rather hard lines when the shareholders were getting 10, 15, or 20 per cent. that the debenture holders should have the option of coming in and exchanging 6 or 7 per cent. debentures for the shares which were paying a much higher interest.

The CHAIRMAN said he fully agreed with Mr. Greenhill on that point, and he might rest satisfied that, in issuing the debentures, the directors would take care that the interests of the present shareholders would not be prejudiced. (Cheers.)

The resolution was then put and carried unanimously.

Mr. RAIKES, in answer to a question, said the option would be given to the shareholders to apply for the debentures before they were offered to the public.

Mr. GREENHILL: What will be the probable percentage?—Mr. RAIKES: If we get them at 6 per cent. we shall be content.

Mr. GREENHILL proposed a cordial vote of thanks to the Chairman and directors, and also to Mr. Beynon for his management at the mine.

The resolution was seconded and carried, and the CHAIRMAN acknowledged the compliment on the part of the board.

Mr. BEYNON said he was very pleased to see such a harmonious meeting. He heartily agreed with what Mr. Greenhill had said with regard to sinking the two shafts simultaneously, and he could not only be happy to recommend the directors to do it if the directors had the 40,000, to do it with, but if they got the 40,000, there was one little matter which should not be overlooked, and that was the present time they had sunk the shaft 353 yards without a serious accident, but they could not hope such good fortune to attend them whilst sinking the other two shafts. They might or they might possibly not be sunk without accident, and if they sunk the two shafts simultaneously they might get down with neither at a cost of 4,000, and, therefore, it would be wiser to sink No. 2 shaft first,

and raise 12,000, of coal per day, and then if there was a surplus of 10,000, or 12,000, left on hand they could pay out 7000, in erecting 120 coke ovens, because whilst coal was at a low price it was more carefully screened, and there was a larger quantity of "smalls," which could be made into coke at very remunerative prices to the company. When they had got the No. 2 shaft down then he should recommend them to commence the No. 3 shaft, so that as soon as possible they could raise 1500 tons of coal. He referred to the great difficulties which they had had to contend with, and the doubts which had been expressed as to whether they had really struck the Black Vein seam, but he thought this point was now placed beyond all doubt, and he looked forward with the utmost confidence to the future of this colliery. (Cheers.)—The meeting then broke up.

NEW ROSARIO MINING COMPANY.

A special meeting of shareholders was held at the City Terminus Hotel, on Tuesday, to confirm resolutions previously passed.

Mr. JAMES GOODSON in the chair.

The SECRETARY (Mr. M. Hearn) read the notice convening the meeting.—The CHAIRMAN, referring to the printed list of resolutions, said that these would be separately proposed for the confirmation of the meeting.

Mr. GOODSON proposed the first resolution—"That it is advisable to wind-up the company voluntarily."—Mr. DAVIS seconded the motion, which was agreed to. Mr. BURTON (a member of the committee) proposed the second resolution—"That the name be wound-up voluntarily accordingly." He said he thought it right to take this opportunity of giving the shareholders a rough idea of the proposed reconstruction. The committee had agreed upon a basis, and it chiefly had to do with the management of the new company. It was agreed that the directors of the new company should number not less than five and not more than ten, and not yet been made. Nobody could be proposed for a seat on the board unless he had held a seat for 12 months, but that, of course, applied to the future directors. The next point was that the remuneration of the board should be contingent upon a dividend of not less than 5 per cent. being paid to the shareholders, and that the amount of such dividend. It was also proposed that there should be half-yearly meetings and balance-sheets, and that two auditors should be appointed, one of them to be a professional accountant and the other a shareholder of the company, if the shareholders thought it necessary to have a second auditor.

Mr. G. LINDO (the solicitor): We may take power in the Articles to have two auditors, and only have one if that is so determined.

Mr. DAVIS closed by saying that the object of the committee had been to place the entire control of the company in the hands of the shareholders.—The motion was then seconded and carried.

Mr. LAITY proposed the third resolution—"That Messrs. James Goodson, Henry Swaffield, and Henry Sutton be and are hereby appointed liquidators thereof, and that their remuneration shall not exceed the sum of 20 guineas each."

Mr. L. WEAY seconded the motion, which was agreed to.

Mr. WADDINGTON asked that a definite sum should be fixed as the remuneration of the board.

Mr. G. LINDO (the solicitor) reminded Mr. Waddington that the board had not the appointment of their own remuneration. The committee would still have to approve the scheme for reconstruction, and the Memorandum of Articles of Association. The shareholders had virtually deputed the committee to act for them in this matter, and in the Articles it must be stated what the remuneration would be.

After some further conversation on this point, Mr. YOUNGHUS and moved the next resolution:—"That the said liquidators be instructed to convene a committee consisting of the directors of the company and shareholders (Mr. Goodson, Mr. Laity, and Mr. Nicholson) in preparing and submitting to the shareholders a scheme for the reconstruction of the company, such scheme to preserve, as far as possible, the interest of the existing members of the company."

The SOLICITOR informed the meeting that the petition which had been filed by Mr. Alexander in opposition to the board had been dismissed with costs with interest and that his friends in the hands of the committee. In conclusion the solicitor moved the following resolution:—"That the said liquidators be at liberty to carry on the works at the mine and do all things which may be necessary to preserve the business of the company." The mine must be continued, and it was therefore advisable to pass this resolution.

Mr. TILLYARD seconded the motion, which was carried unanimously.

Mr. VILLYARD, speaking on behalf of Mr. Alexander, said that, had Mr. Lindo's explanation at the meeting been as frank as it was in the Court of Chancery, the petition would never have been filed, and the discussion which took place with respect to the interests of those shareholders who might not think fit to join the new scheme would have been rendered unnecessary.

Mr. SURROG proposed, and Mr. GOODSON seconded, a vote of thanks to the Chairman for presiding. The motion was carried, and the meeting closed.

BOTALLACK MINE.

The quarterly meeting of shareholders was held at the mine on Wednesday. Mr. JAMES (the purser) in the chair.

The accounts for the three months ending September showed—Debits: Wages, 3328l. 6s. 1d.; coals, timber, and rents, 1092l. 18s.; merchants' bills, 454l. 5s. 6d.; total costs, 4905l. 9s. 6d.—Credits: Copper ores, 62½ tons (less dues), 5214l. 4s. 6d.; tin ores sold—Botallack, 56 tons 8 cwt. 2 qrs. (less dues), 2360l. 16s. 9d.; Trullath, 35 tons 15 cwt. 2 qrs. (less dues), 1433l. 8s. 3d.; Carnyorth, 13 tons 13 cwt. 1 qr. (less dues), 560l. 15s.; sundry credits, 56l. 17s. 2d.; total credits, 4933l. 1s. 8d., deducting from this amount the costs will leave a balance of profit on the quarter of 27l. 12s. 2d. The balance due from the adventurers at the last account was brought forward of 3018l. 13s., deducting from this calls received 511l. 17s. 6d., and profit shown on the past quarter, 27l. 12s. 2d., will now leave a balance due from the adventurers of 2506l. 3s. 4d., which is carried forward to debit of next account. The agent's report stated that at the Higher Mine the 180 east is driving, and has a promising aspect. The 150 and 130 east, on Wheel Loor, are both opening good tin ground. The 100 east is also driving, and producing tin, but not sufficient to pay. There are 24 men and boys opening ground in the levels and winzes, and 104 men and boys stopping on tribute at 1 lwt. At Wheel Cock the skip shaft is sunk about 10 fathoms below the 135; ground favourable for sinking, and producing mineral to pay for working. The 135 west is opening good ground for copper, also the 112, on Wheel Cock level, is discovering paying ground for copper. An end driving west on the 114 west, is opening good tin ground, and is also opening tin copper. The 100 east at the 100 south has had open good mineral ground; this is supposed to be on the new lode at Carnyorth. An end driving over the 100 west and a rise over this end are both opening copper ground. The rise over the 70 south is paying ground. The 85 west and a winze sinking on the 130 level are both opening producing tin and copper ore, likewise the 63 south will pay well to work; here are 33 men and boys opening ground in levels, winzes, &c., and 59 men and boys are opening ground in tubwork and tribute. At Carnyorth the 100, east, west, on new lode, are opening good tin ground, also the 30 west, on Rod's, here are five men and boys opening ground, and 23 men and boys stopping on tubwork and tribute. The agents' report by stating that they consider the openings of tin and copper ground have improved during the past quarter, and they consider the mine is looking better; ground opened in three months in shafts, levels, and winzes, 114 fms. 2 ft. 7 in.

After the accounts were audited and passed, the shareholders partook of the usual substantial dinner, presided over by the purser, Mr. JAMES.—After disposing of the loyal toasts, the CHAIRMAN proposed "Success to the Botallack Mine," and made some interesting observations on their progress, and how gratified he was to be able to allude to their much improved prospects during the past three months.—(Hear, hear.)—and he was satisfied that if only tin would keep up to fair remunerative prices that Botallack ore long would be seen to rank again among the good dividend mines of the country. (Applause.)—Mr. JAMES proposed the toast of "The Lords of the Mine," specially referring to Mr. Alfred Chenhalls, who was present with them, and who, with two other lords, had granted them a new lease of the Carnyorth part for 21 years, which had been granted in the account this day.—Mr. GREENHILL, in reply, said that he was very thankful for small mercies. As far as was concerned he was highly pleased with the prospects of Botallack, and the adventurers ought to feel very much gratified that the Trullath part of the property had been a bid to their suit, and he would observe that he had been, he considered, very instrumental in promoting the arrangements which had been made.—(Hear, hear.)—and although this part—Trullath—had belonged to Wheel Owles, yet it could not be worked by them for many years, and then taken at a great cost.—(Hear, hear.)—so that it was best it should go to Botallack. (Hear, hear.)

Mr. ALFRED JAMES, of Penryn, gave "The Health of the Purser," which was most cordially received by all present.—Mr. JAMES (the Chairman), in responding, said he considered the mine looked much better (in fact, he would say considerably better) than at the last account.—(Hear, hear.)—still although tin was advancing, and much more satisfactory results were obtained, it required even now the greatest economy and care in working. Parcels of Botallack tin were sold on Tuesday, the 11th, at 48l. per ton. The same quality tin (included the corresponding quarter's account of four years ago) was sold at 50l. per ton. He believed the men were working well and earning fair wages. (Hear, hear.)—Mr. F. BOASE (Mayor of Penryn) gave "The Health of the Agents of Botallack," who, he believed, were entitled to their utmost confidence and esteem. He was greatly pleased to meet them on this occasion with much improved prospects.—(Hear, hear.)—Capt. BENNETT, in replying for the agents, gave a detailed exposition of the prospects of the mine, and alluded specially to the excellent prospects of the Wheel Loor level, going east on the Trullath part. Here the 150 east, between the 130 and 120, there has been discovered some productive tin ground, the 130 west, in the 100 west, at Carnyorth, some portion of the lode has been won 250 ft. per fathom. There is a very valuable piece of ground for 100 fms. long going west from Carnyorth into Wheel Cock; and, whilst speaking of Wheel Cock, although it was often referred to as "a handily corner," yet there are now excellent prospects, particularly on the new lode. This part of the mine is also noteworthy for the great number and variety of lodes contained in that sett. (Hear, hear.)—In reply to Mr. W. H. RICHARDS, Capt. BENNETT stated that the water in the higher part of the mine, including all the Trullath part, was kept drained now by one pumping engine, consuming only 15 cwt. of coal per day, and 10 cwt. of oil. The great range of levels are about 3½ miles long. The entire drainage of Botallack Mine (which includes the Higher Mine, Trullath, Carnyorth, Wheel Cock, and the Wheel Loor and Crown) is effected now by four pumping engines, consuming at the present time about 4 tons of coal per day.

The Botallack Committee (Messrs. E. H. Rod, F. Boase, E. Davy, C. C. Row, and H. Thomas) were especially referred to by Mr. F. C. YARR, who spoke of the

valuable services those gentlemen had rendered the adventurers. He was sure the same (Mr. York) felt great pleasure in proposing their healths. — Mr. H. THOMAS replied on behalf of the committee who he was certain, greatly appreciated the confidence of the shareholders. He (Mr. Thomas) personally always took the confidence of the shareholders of Botalack, and he believed now they were in a position to be considered to be of a very cheering character. — Capt. F. OAKS, prospects were dark, and who was heartily esteemed by all after his return from abroad, made some very interesting remarks on his visit to the great Diamond Fields in South Africa. He had gone some thousand miles up the country above Cape Town, and would return shortly to resume his labours. He also referred to his association with Botalack (of which he was for many years an agent). He will state whatever quarter of the globe he was located in, he continued to take the greatest interest in the well-being of Botalack, and he considered the extensive workings of their mine had been continued to be carried on with great skill, and he only hoped all their extensive explorations would speedily yield "good fruits." He heartily thanked the Chairman and the adventurers for their continued kindness to him, and specially their hearty welcome on this occasion.

HERODSFOT MINING COMPANY.

At a meeting of the adventurers, held at the mine, on Nov. 7 (Mr. MATTHEW LOAM in the chair), the accounts showed a profit on the four months' working, from April 29 to Aug. 19, of 6s. 2d. 5d., a balance of assets over liabilities of 1555s. 4s. 10d., and a cash balance of 800l. 15s. 11d. Messrs. Loam, Hawke, and Isaac were re-elected members of the committee. The following report was presented:—
Nov. 7.—I am glad to say we have intersected the lode at the 205, but are not yet in the lode at the intersection, as a similar turn was noticed at the 190. We have broken some nice lead from the part seen, and hope soon to reach the western wall and open on it, and are sanguine of having something good. The lode in the 190 south is a kindly lode, and yielding about 5 cwt. of lead per fathom. The stopes, on the whole, in back of the 190, which is our main producing level, have improved of late, and will yield on the average 10 cwt. of lead per fathom. Our operations at the back of the 80 have been continued in rising on the shoot of the lode, and although the value fell off since last meeting, the stopes are now leady ground, and is worth 12 cwt. per fathom. It may not be amiss, for the looking better, and to explain the reason of the meeting being held beyond the usual time. The principal reason is owing to the very long drought we have had in the summer, and our lode being a large and dreily one, and requiring stamping power, that we were quite unable to work our stamps, hence the lack of water for drawing was a serious drawback, and there was no alternative but to postpone the meeting for a short time. In the coming three or four months I hope to pick up for lost time, and get our meeting at its regular time in February. In addition to the foregoing, it is my decided opinion that we are generally improved, and shall now operate on the level at the 205; and taking into consideration the long piece of ore ground driven over at the 190, we have a fair prospect of realising ultimately, if not immediately, something better than meeting cost.—THOMAS TREVILLION.

WHEAL UNY MINING COMPANY.

A general meeting of adventurers was held on Tuesday, at the offices of the company, Austinfraria, Mr. WALTER PIKE in the chair.

Mr. J. HICKEY (the secretary), having read the notice convening the meeting, read the minutes of the preceding meeting, which were confirmed. He then read the financial statement for three months, charging costs to September last. The labour costs amounted to 2359s. 2s. 6d., the merchants' bills to 1145s. 5s. 4d., and the lord's dues to 194s. 17s. 6d. The carriage amounted to 9s. 6d., thus showing a profit of 22s. 14s. 2d. on the 12 weeks' working, the debit balance now being 518s. 6s. The report from Captains Rich, Rogers, and Bennetts gave the value of the various points of operation, which varied from 7l. per fathom to 18l. per fathom, with one point of the value of 28l. per fathom. A hope was expressed that the same run of tin would be intersected in the 160 that had gone down in the bottom of the 150 west. The drawing of the 160, east of Hind's, will now be resumed, where the lode looks likely to be good. Hind's diagonal shaft has been made complete from the 150 to the 160, and the shaft is sunk some 6 ft. below the 160. "In a few days," continues the report, "we shall be in full course of sinking below the 100 in a lode worth 25l. per fathom for the length of the shaft." The pitwork is nearly new, and in good order, the water being very easily kept under. The amount of tin sold in the 12 weeks (91½ tons) was a larger quantity than the mine had ever yielded before for the same period, and but for the low price of tin good profits would have been made. Looking at the efficient state of the machinery compared with the past, at the favourable prospects of the underground operations, and in proving state of the market, there is great reason to hope for a prosperous future for this mine.

The CHAIRMAN said the statement of accounts and the agent's report which had been read to the meeting spoke for themselves in a most satisfactory manner, and needed but a very few words from him. He would, however, refer to one or two facts in connection with the mine, which was never in such a good position as at the present time. During the past few years the outlay had been very heavy. Hind's engine shaft has been sunk 160 fms. from surface through dead ground, and a new engine and pitwork had been erected. King's shaft had been sunk from surface to the 160 fathom level, and a skip-road had been put there, which enables them to work the mine in a thoroughly efficient manner, and to take every advantage of the improved prospects of the tin market. During the quarter about 91 tons of tin had been sold, the average cost for raising which was about 60l. per ton, so that any price obtained over 40l. was profit. The last sale of tin was at 47l., and at this price had been realised for all the tin sold during the quarter the profit would have been 6000l. instead of 2000l. The engine shaft was now being sunk in a lode worth 25l. per fathom, proving that the bottom is the best part of the mine, and they might reasonably expect increased returns of tin. The average price of tin for the last 25 years was 20l. per ton more than the present price; and if they could only get 50l. per ton, he believed that 5s. per share could be divided at the next quarterly meeting. The water was no longer a difficulty, as the engine is more than sufficient to keep the mine well drained.

The CHAIRMAN expressed a hope that at the next meeting there would be a satisfactory credit balance, and with respect to the old balance, although there is a debit of 518l. against the mine, there is an engine and 160 fms. of pitwork which can be sold as occasion offers. It would be kept during the winter, very probably, in case of any unforeseen accident. If this 1000l. were credited, there would be a favourable balance of about 5000l.

Mr. McCALLAN remarked that the statements made were the most satisfactory since the mine had been worked.

In reply to questions, the CHAIRMAN stated that the accounts were kept well charged up, and that the last sale of tin, although made on Friday, was sold at Monday's price, as a rise was anticipated. The prices realised during the quarter were from 41l. 7s. 6d. to 45l. They had had one in the shaft all the way down, but was never so good as at the present time. It was the same lode as that in South Condor, West Basset, and West Francis. Previous to the past quarter the mine had seldom sold more than 60 tons of tin per quarter.

On the motion of Mr. McCALLAN, seconded by Mr. GILLINGS, the accounts were passed, and the balance carried forward.—The CHAIRMAN stated that the resolution to forfeit shares in arrears of call would fall through, as the arrears had been paid up.—The meeting then closed with a vote of thanks to the Chairman.

ON THE WORKING OF HIGHLY INCLINED COAL SEAMS OF GREAT THICKNESS AT DOMBROWA, IN POLAND.*

The coal seams of Dombrowa, forming an extension of those of the Upper Silesian basin at Zabrze, Myslowitz, &c., are of great thickness, and dip at a considerable angle. The coal is dry, unfit for coking purposes, and very inflammable; conditions which render the working difficult, as special methods are required in order to get as much large coal as possible, the slack being comparatively valueless, and liable to give rise to spontaneous combustion. The calorific power, however, being high, the ash small (not exceeding 4 per cent.), and sulphur almost completely absent, the coal is in considerable demand for metallurgical works, locomotives, and domestic consumption. The average price during the last four years has been about 10s. per ton for large coal, but only about 1s. for rough slack. The method to be described has been adopted at Nowo Labensky and Cieszkowsky, where the seam is from 52 feet to 59 feet thick, and varies in inclination from 15° to 40°. At these places it was originally worked in open-cast, but the rapid increase in the amount of cover to be stripped, owing to the sharp dip, has rendered the continuance of this plan impossible.

In laying out the underground workings, the French method of taking the coal in horizontal slices and packing the openings with earth from the surface (*renblais*) was found to be objectionable, both on account of the cost of timber and packing material, and the crushing of the coal by the irregular shrinking of the filling material, which produced such a large proportion of slack that the mine could not be worked at a profit. It was decided, therefore, to adopt a modified system, in which the coal is taken in slices from above downwards, but without packing, and this has been carried out in the following manner:—

The seam, which dips towards the pit is laid open by a pair of cross-cut levels about 33 ft. apart vertically; when these levels reach the coal they are continued right and left on its course, keeping close to the line of intersection with the roof, and preserving their relative positions. The upper one of these is used as a main drawing road, while the other serves as a drainage and return air-way. At intervals, varying from 230 ft. to 330 ft., rise headings are driven in pairs parallel to each other, about 23 ft. or 26 ft. apart, but of unequal section, the larger one being intended for conveyance into self-acting incline planes, while the smaller, designed primarily for venting lat-

purposes, is used by the miners as safer for travelling than the main inclines. In driving these headings a thickness of about 3 ft. of coal is left on the roof side, below the actual roof, which is a black, carbonaceous shale, often very combustible, and even liable to spontaneous ignition.

From the top of the rise heading a gallery is driven right and left on the roof side, parallel to those below, and the coal is divided for working by headings, which are driven across to the floor of the seam at regular intervals, leaving pillars 40 feet to 43 feet thick between them. These headings are from 8 feet to 10 feet in height, the coal being worked in stages about 13 feet thick, so that a thickness of solid coal of at least 3 ft. is left as a temporary roof to support the waste of the upper stage previously worked out. The stripping of the pillars is commenced in the centre of the panel formed between any two of the inclined planes, after removing the roof coal, by cutting back the pillars in a direction parallel to the cross headings for a breadth and length of 20 feet and a height of 13 feet, timber props being used to protect the working faces. When the whole of the coal is removed a layer of small wood and props is placed on the floor, forming a kind of cushion, which distributes the pressure of the fallen rock and waste over the surface of the next lower stage in such a manner that the roof, although consisting merely of broken stuff, is sufficiently coherent to be kept up by the use of timber props. When the pillar has been entirely removed, the roof is allowed to come down by withdrawing the props, wherever it is possible to do so, but those that are too tightly held are shattered by small charges of dynamite. Usually three stages may be worked at a time; while the pillars are being removed in the uppermost, the headings are driven in the one below, and the longitudinal galleries are being driven in the third.

The coal being always supported upon a firm bed is not liable to crushing, and thus one of the principal causes of spontaneous ignition is avoided. In the event of fire, however, there would be but little difficulty of mastering it, as the pillars are only 40 ft. broad, and may be approached from three sides. In order, however, to obtain the full benefit of the method, it is necessary to pack the excavations formed by the first four of five stages at the top, so as to have a protecting cushion for the workings against falls of rock from the sides of the old excavations.

The proportion of round coal obtained by this method is 65 per cent. of the total quantity raised. The total cost of getting is 6s. 4d. per ton, while the average selling price, taking round and slack together, in the proportion of 6½ tons of the former to 3½ tons of the latter, is 7s. 4d., leaving a profit of 1s. per ton. If the method of packing had been employed there would have been a loss of about the same or rather more from the larger proportion of slack produced.

— M. JOUKOWSKY, Bulletin de la Société de l'Industrie Minière.

FOREIGN MINING AND METALLURGY.

The question is rather anxiously asked at Liège, "Will the comparatively—although not altogether—peaceful aspect of the Eastern question be attended with the favourable consequences hoped for in respect of a revival in affairs?" Deliveries of coal continue, however, to be pretty well maintained. The rolling mills of the Liège group are also fairly off for orders for plates, merchants' iron, and special iron. The Ougrée Ironworks have received some rather considerable orders for fine-grained iron tyres. Pig remains much depressed in the Liège group, under the adverse influence of Luxembourg competition.

The directors of the Mulhouse (France) Gas Company report that, while the sales of gas effected by the company increased last year, a sensible reduction was effected in the working expenses, in consequence of the decline which took place in the price of coal. This reduction averaged 4s. 0½d. per ton. The directors have made efforts to extend the sale of the company's coke. The dividend declared by the company for 1875-76 is 17. 4s. per share. In connection with the coal question in France it may be added that the imports from Great Britain in October amounted to 282,687 tons, against 224,608 tons in October, 1875, and 220,574 tons in October, 1874. The aggregate imports in the first 10 months of this year were 2,682,421 tons, against 2,225,822 tons in the corresponding period of 1875, and 1,941,575 tons in the corresponding period of 1874.

A fair amount of activity prevails in the French coal trade. In the Nord and the Pas-de-Calais the extraction is maintained on a fair scale, and it is absorbed as fast as it is made available for consumption; prices remain, however, about stationary. An advance of prices, indeed, to be every day becoming less and less probable; this is one of the most likely seasons of the year for an advance, and as it is not witnessed now it does not seem likely to take place. The beetroot sugar season of this year will certainly not be an encouraging one; a certain amount of coal may be consumed, but the results obtained are not likely to be very liberal. In the basin of the Loire a tolerable amount of activity prevails, but prices are as quiet as in the Nord. Coal for domestic consumption has been purchased at Paris at about former rates.

The Belgian iron trade has remained somewhat heavy, and little change in prices is anticipated until the close of the winter season. Prices are very low, and large transactions have become more and more rare; small orders alone maintain a certain activity in the rolling mills and ironworks. It had been hoped that the semblance of activity which was noticed a few months since would acquire rather more extension, but it has been of short duration, and appears to have been principally occasioned by a demand for iron for building purposes. As a natural consequence of the present comparatively dull state of affairs some of the most important Belgian establishments have decided to introduce serious reforms into their administration, with a view to a reduction of their general expenses. As regards the Acoz Company, it has decided to shortly stop its Châteaufort rolling mill. Some rather important contracts for railway material are about to be let. Thus, an adjudication is about to take place at Vienna for 2000 tons of Bessemer steel rails for the Empress Elizabeth Railway. This contract will include sundry accessories. Another contract is also about to be let for 15,000 tons fine-grained iron or steel rails, 18,000 fish plates, &c., for the Altona and Kiel Railway; this contract will be let at Altona.

One of the most striking features of interest in the French iron trade has been an adjudication for steel rails for the South Italian Railway Company. The Bochum (Westphalia) Company offered to supply rails 20 ft. in length at 87. 4s. per ton, delivered free at Naples. The Terrenoire Ironworks Company offered to supply similar rails at 87. 1s. 3d. per ton upon the same conditions. These terms must be considered low, having regard to the heavy transport rates which have to be supported in connection with the delivery of the rails. Seven competing firms tendered; their offers were so nearly identical that it is concluded that prices have practically fallen to their lowest point. The Creusot and Terrenoire Works have obtained an order from the Italian Minister of Marine for 5000 tons of steel plates, at 147. 8s. per ton. This contract is regarded as a more advantageous one than that just previously mentioned. Iron is quoted at about 77. 4s. per ton at Paris; first-class iron brings the same price in the Nord. In the Meurthe-et-Moselle refining pig is worth 27. 10s. to 27. 10s. 10d. There is a fair amount of work on hand, but the future still presents itself under a sombre aspect.

A report on the iron and steel trade of Austria-Hungary states that though during the past few weeks orders have again come in more slowly, yet manufacturers are kept fairly engaged for the winter; and as there is not the least prospect of an advance of prices, it is probable that orders will continue to come in steadily. The demand for rod and sheet iron for the arsenal is considerable, and the Empress Elizabeth Railway Company has also just placed an order for 2000 tons of steel rails. The pig-iron market is very flat, and the prices for rolled iron are depressed in consequence of the pressure of sellers. In fine iron there is more business going on; while the implement trade is contracting. Complaints of scarcity of money are numerous.

Business in copper has been pretty well sustained at Paris, and prices have slightly advanced. Chilean in bars, with delivery at Havre, has made 83l.; ditto ordinary descriptions, 81l.; ditto in ingots, 83l.; and pure Corocoro minerals, 80l. per ton. In Germany transactions in copper have shown a little more animation, and prices have been rather firmer. Quotations for tin have been pretty

well sustained at Paris; Banca, delivered at Havre or Paris, has made 81l.; Straits ditto, 80l.; and English, delivered at Havre or Rouen, 80l. per ton. Tin has been advancing at Rotterdam, speculators forcing up prices by buying some rather important lots. Banca has risen to 46 fls., and Billiton to 45 fls., as well for disposal as for under sale. The Dutch Society of Commerce has announced its next public sale for the 29th inst.; it will comprise 29,000 ingots of Banca and 3500 ingots of Billiton. There has been little doing in lead at Paris; the German lead markets have, however, been firm. Zinc has been rather feeble at Paris; at Marseilles rolled Vieille Montagne has brought 32l. per ton.

FOREIGN MINES.

ST. JOHN DEL REY MINING COMPANY (Limited).—Advices received Nov. 3, 1876, per Minho (s.), dated Morro Velho, Oct. 2:—

GOLD EXTRACTED TO DATE.—The produce of the mineral stamped during the second division of the month of September, being a period of 11 days, amounts to 12,230 cts. It has been derived as follows:—

	Ozts.	Tons.	Ozts. per ton.
From general mineral	4,816 0	1158	4 158
Mineral roughly freed from killas	6,539 0	620	10 543
Re-treatment	11,355 0	1773	6 388
	875 6	—	4 92
Total	12,230 6	1773	6 878

Equal to 1409 9891 oza. troy = 7930 oza. troy per ton. The above gold return is lower from the general mineral than we have hitherto had 4 158 ozts. per ton. The yield from the mineral roughly freed from killas continues about the same—namely, 10 543 oza. per ton, but the large proportion of poor mineral, 1158 tons, as compared with the better ore, of which we have only reduced as may be seen 620 tons, lowers the general standard yield to 6 878 ozts. per ton, and unduly lessens the produce of this division.

The better class mineral now being quarried in the A section of the excavation should give a better gold return during the present month.

ADVISED RECEIVED NOV. 14, 1876, EX TAGUS (s.), dated Morro Velho, Oct. 17:—
GENERAL OPERATIONS.—During the first fortnight of the month the general work of the establishment has been carried on with regularity, without interruption, and a moderate amount of duty has been done both in the mine and at the surface works. A small rainfall of 1.80 inches, between the 11th and 14th, has given increased water-power, temporarily at least. We are not entirely free from the effects of the late prevailing illness, which caused us so much inconvenience during the past few months. Our native force is not yet at its maximum, several being absent engaged in the planting of their grounds.

MINING DEPARTMENT.—The native attendance in the mine has been pretty steady since the beginning of the month, excepting for a couple of days about Festa time in the village on the 8th and 9th current. The general mining work has gone on steadily, full supply of mineral being quarried for the stamping mills, and the timber-work being very well brought forward, notwithstanding some little drawbacks from the remaining cases of miners on the sick list.

The haulage of mineral has given an average of 247 wagons per working day, and the pumping machinery has acted well and effectively. The water supply has been rather better than we generally expect for this part of the month of October.

We have not had boring force sufficient to prosecute the driving westward. It shall be resumed, however, as soon as force becomes available. Mineral is being quarried in section 215.

During the month of September 6354 wagons of mineral were quarried in the mine, and delivered on the spalling floors, on which there is still an available stock for the stamps. The above duty was performed by a daily average of 86 15 borers.

The stamping is now going on in the regular way—taking a pretty fair slice of mineral from the stopes at the points shown in last sketch of spaces excavated. This month should give us a fair average of the general mineral of the lode. We should do larger boring duty, as very few holes are now required to be bored on the sides of the excavation.

REDUCTION DEPARTMENT.—Efforts are being made to catch a larger proportion of the auriferous sand on the strakes passing from the stamping mill coffers, and to have it carefully treated by the amalgamation process, but our short supply of water at the present time limits our work in this respect. Sand to the extent of 6608 cubic feet were caught and amalgamated during the month of September. It yielded at the rate of 5 288 ozts. per cubic foot.

The stamping-mills, though not driven fast, from having a small supply of water, were steadily kept at work, the only stoppages being for necessary repairs, that they showed having worked on an average for the month for 20 48 days.

PRODUCE FOR THE MONTH OF SEPTEMBER.—The gold extracted during September amounts to 34,552 1 ozts. It has been derived as follows, viz.:—

	Ozts.	Tons.	Ozts. per ton.
From general mineral	14,157 5	3173	4 461
Mineral freed from killas	17,973 0	1772	10 103
Re-treatment	32,130 5	4945	6 492
	2,421 6	—	4 99
Total	34,552 1	495	6 981

is 3983 2945 oza. = 8 055 oza. per ton. The foregoing is a smaller return of gold than was extracted in August, as regards the general mineral, which has only given 4 461 ozts. per ton, whereas August gave 5 552 ozts. The mineral roughly freed from killas has given 10 103 ozts. as compared with 9 671 ozts. extracted in August. It may be hoped our next returns, if we had adequate water power, will be better.

COST AND PROFIT.

The produce for Sept. being 34,552 1 ozts.
Deduct loss melting into bars 252 8
34,299 3, at 7s. 9d. per ozt. = £13,290 19 6½
Cost 6,398 14 3½

Profit for the month of September £ 6,892 5 3½
The cost is the lowest incurred this year, but the gold return being considerably less than during the preceding months, shows a smaller profit on the month's working.

GOLD EXTRACTED TO DATE.—The gold extracted during the first division of October, being a period of eight days, amounts to 10,653 3 ozts. It has been derived as follows:—

	Ozts.	Tons.	Ozts. per ton.
From general mineral	5580 5	889	6 288
Mineral freed from killas	4417 1	494	9 002
Re-treatment	10,037 6	1383	7 258
	615 7	—	4 45
Total	10,653 1	1383	7 703

Equal to 1228 1520 oza. = 8 880 oza. troy per ton. The foregoing shows a little better gold return, especially from the general mineral. The gold troop was dispatched from Morro Velho on Oct. 13, taking sixteen boxes, containing forty-six bars, and weighing in all 72,945 6 ozts. = 735 424 lbs. troy, for shipment per Tagus (s.) for delivery in London. The gold has duly arrived.

The following telegrams have been received:—
On Oct. 23.—Produce, eight days, first division of October, 10,500 ozts., yield 7 7 ozts. per ton. Profit for the month, Sept., 6800l.
On Nov. 7.—Produce, twelve days, second division of October, 15,750 ozts., yield 7 8 ozts. per ton.

DON PEDRO.—Report for September: General Remarks: The ore returned this month has been derived from the following places:—Canoa: No. 2 stopes, No. 6 shoot, No. 4 stopes, No. 8 shoot, Nos. 2, 3, 5, 6, and 7 stopes, No. 5 shoot or curve. From incline westward and driving north, also from the pillar of ground in Alice's west. General work is of a low quality owing to not being able to work on the No. 8 shoot and lode only on occasion, in consequence of water. The water now lifted from the mine is 25 07 cubic feet per minute.—Stopping: Canoa, No. 2 Stopes. Following operations were resumed on the 27th, but as there was very little done for the month, no measurement taken. No. 6 shoot, No. 4 stopes, section 71, has been continued northwards towards the No. 3 stopes, and is now down to the horizon of the 30 cross-cut. The slope has crossed the south line of gold. Good samples have been taken for general work, but no boxwork available. The incline rise, section 71 and 70 going towards the old incline in the shoot, is being continued. In No. 8 shoot, No. 2 stopes, section 70, the lode is large, and of a fair quality. No. 3 stopes, section 70, is also very fair in quality. No. 5 stopes, sections 70 and 71, No. 6 stopes, section 71, and No. 7 stopes, section 61, are of a moderate quality. This shoot of lode throughout has a great change in quality and dip, and is now going very flat. Our deepest point stopped on the dip of lode since June 1 is 7 fms. which will give the perpendicular 2 ft. under the 35 cross-cut. We regret to state that we cannot work this shoot of lode more extensively, as it is worthy of a greater trial. Stopping operations were continued occasionally until the 25th, when we met with an increase of water in the No. 2 stopes, and was obliged to suspend all work on this shoot the same night. The incline rise from the middle level was suspended early in the month, in consequence of not having force enough to carry on all works required. The pillar of ground in Alice's west, section 45, has continued without change. In the No. 5 shoot or curve from the north driving, section 45, which is driven from the vertical rise, which has been risen from the back of No. 8 shoot of lode in Alice's west 5 fms., we met with a lode of moderate quality, which we suppose to be part of the curve. On this lode we have commenced an incline rise to be risen towards Hille's level, section 45, and we may expect to open out a great quantity of stopping ground again in this shoot.

Drainage: Re-opening of the incline shaft being continued very satisfactorily, and in about four months this shaft will be completed down as far as the 36 fm. level cross-cut, so that the water will receive the mineral to that horizon. This shaft is now set on contract to three Englishmen, with nine assistants, at 11l. 10s. per fathom; re-open for the month, 3 fms. 1 ft. With the very many hindrances, with our pumping machinery, and the increase of water in No. 2 stopes, in No. 8 shoot, very little progress has been made. On the 18th the bucket-rope parted in the lift, wheel idle 1 hour and 40 minutes; water rose 2½ ft. in the 35 fm. plat. On the 19th 11 35 P.M. one of the iron rods parted at surface; wheel idle 3½ hours, water rose to 4½ ft. in the 35 fm. plat. Water again put in fork on the morning of the 23d. On the 25th 3 P.M. we changed bucket, and after again put to work one part of an iron ring belonging to pump fell out, and got in contact with the bucket; we were again obliged to change the bucket in consequence, and the water rose to 2 ft. 10 in. in the 35 fm. plat. On the night of the 27th we had heavy rain, which did enable us to work 5 in. After the rain ceased the water again began to rise, owing to the increase. On the 30th we again changed the bucket; wheel idle 25 minutes, and the water again rose 2 ft. 10 in. in the 35 fm. plat.—Prospective and Running Work: Repairing of the 30 fm. level cross-cut being kept on as usual, two sets of timber being fixed in the adit level. A great many repairs have been done to the stamps. An incline tramroad has been commenced at the reduction to take the sands from the jiggers, and convey it to the wash-house, also to bring up all roughs required from carriage to the stamps. This machine will be worked with the jigger wheel, and will save the expense of five mules and four baskets, which is now occupied daily. This machinery will be completed in a

* From JAMES FORBES'S "Abstracts of Papers in Foreign Transactions and Periodicals, for the Proceedings of the Institution of Civil Engineers."

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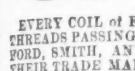
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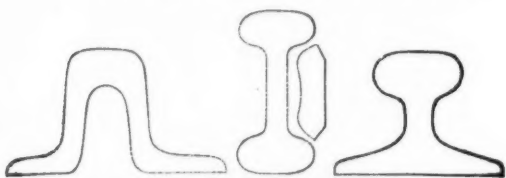
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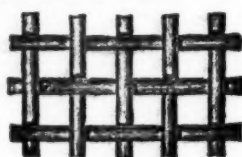
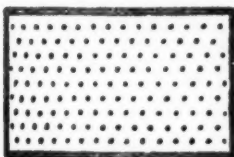
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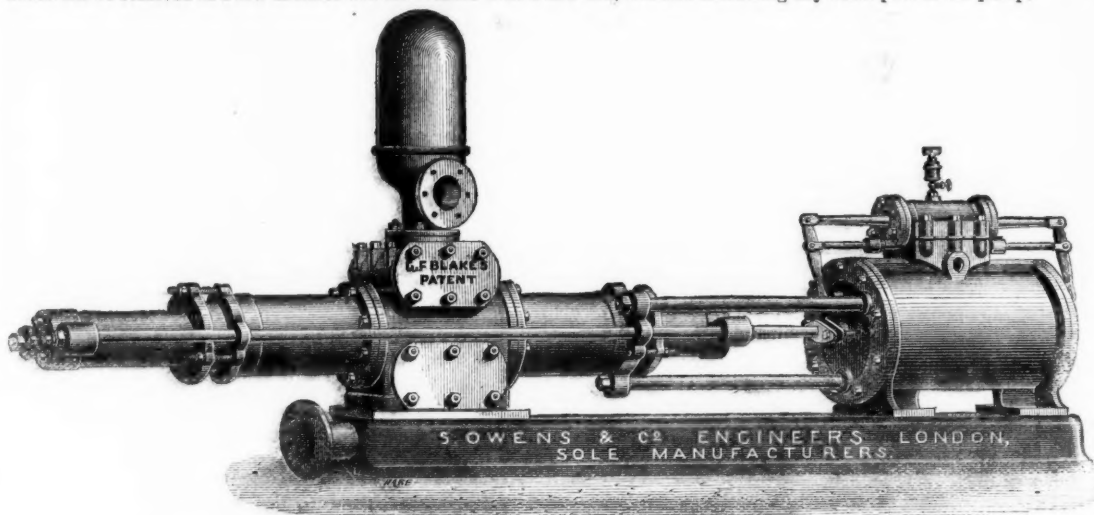
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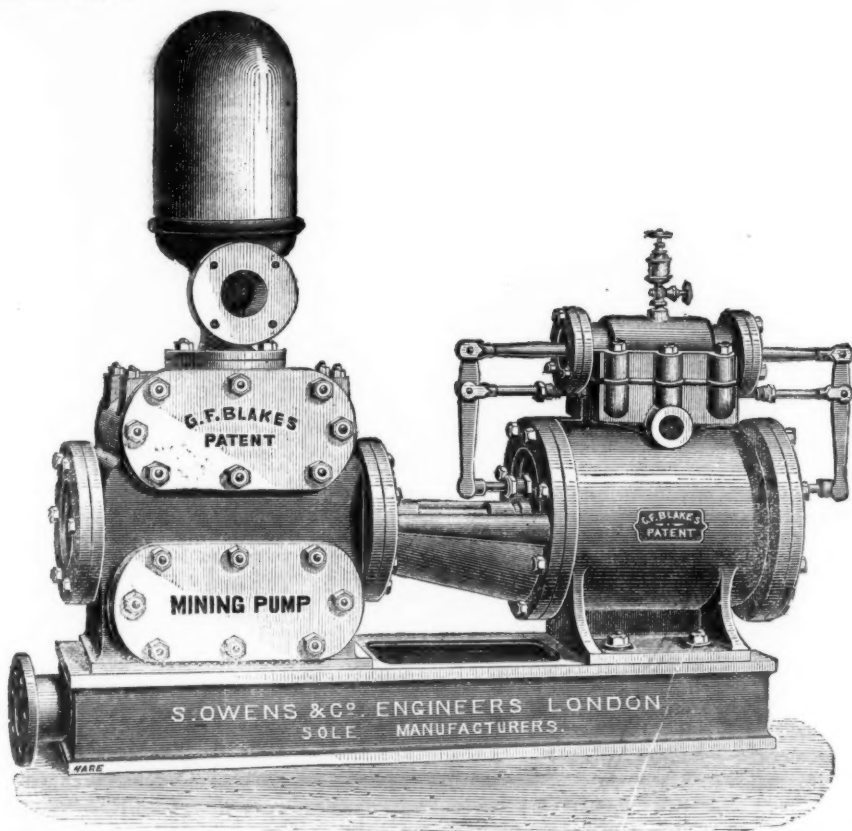
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Length of stroke	18	18	18	24	24	24	24	24	24	24	24	24	30	30	30	30	30	36	36	42
No. of strokes per minute..	30	30	30	30	25	25	25	22	22	22	22	22	22	22	22	20	20	17	17	15
Quantity in gallons per hour, approximately ...	1440	2610	4200	5940	2940	4620	6600	2646	4158	5940	10620	2646	5160	7500	13260	4586	9000	12360	15660	12000

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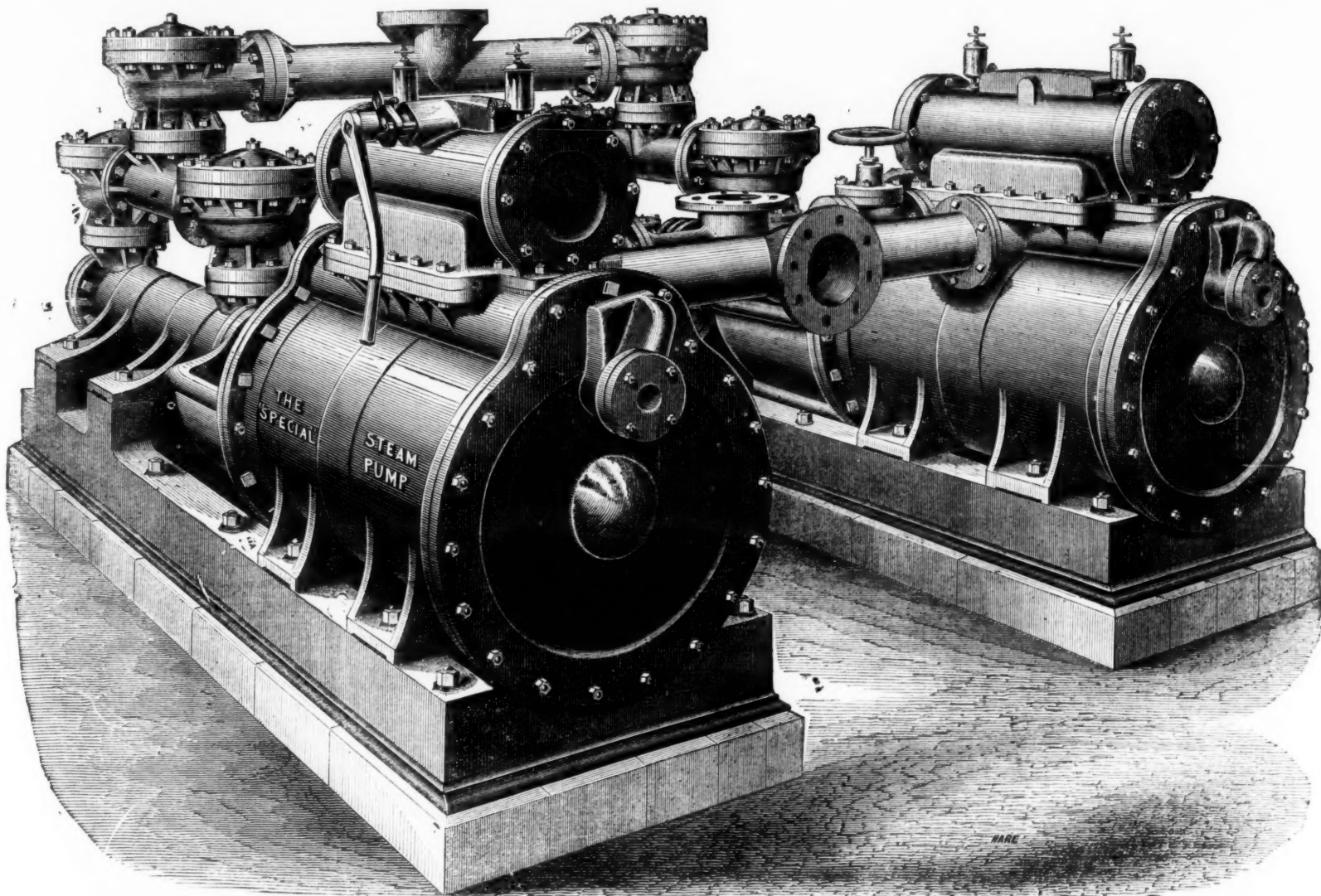
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Extract from a letter received by Tangye Brothers and Holman from W. H. Eagland, Esq., dated Feb. 27, 1875, in reference to a "Special" Direct-acting Steam Pumping Engine supplied two years ago to the West Yorkshire Iron and Coal Company near Leeds, to throw 16,000 gallons per hour, 465 feet high in one direct lift:—

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Ditto of Water Cylinder	In.	3	3	3	4	3	4	3	4	5	4	5	6	4	5	6	7	5	6	7	8	5	6	7
Length of stroke	In.	24	24	24	24	26	24	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Gallons per hour approximate		1830	1830	1830	3250	1830	3250	1830	3250	5070	3250	5070	7330	3250	5070	7330	9750	5070	7330	9750	13,000	5070	7330	9750
Height in feet to which water can be raised with 40 lbs. pressure per sq. in. of steam or compressed air at pump		325	425	540	300	665	375	960	540	345	735	470	330	960	615	426	312	775	540	400	300	1058	740	540

CONTINUED.

Diameter of Steam Cylinder	In.	21	21	21	24	24	24	24	26	26	26	26	30	30	30	30	30	32	32	32	32	32	32	32
Ditto of Water Cylinder	In.	8	9	10	6	7	8	9	10	7	8	9	10	12	8	9	10	12	14	8	9	10	12	14
Length of stroke	In.	30	30	30	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate		13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	9750	13,000	16,519	20,000	30,000	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000
Height in feet to which water can be raised with 40 lbs. pressure per sq. in. of steam or compressed air at pump		413	326	264	960	700	540	427	345	827	633	500	405	282	840	665	540	375	275	960	758	625	426	313

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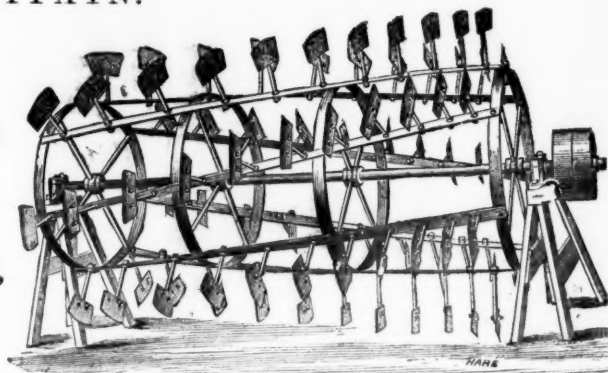
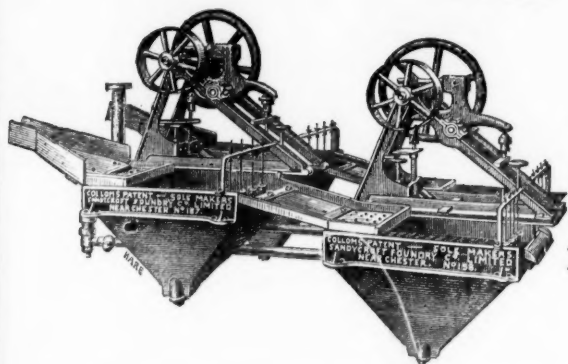
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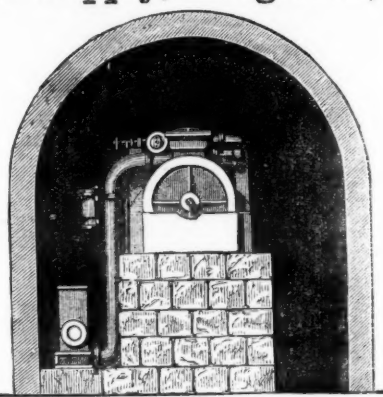
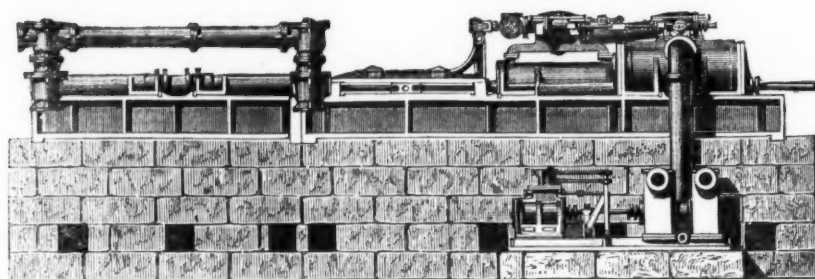
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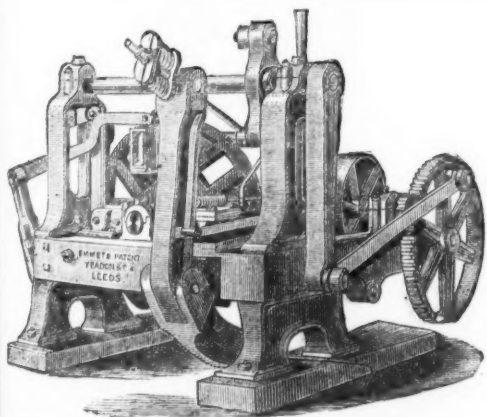


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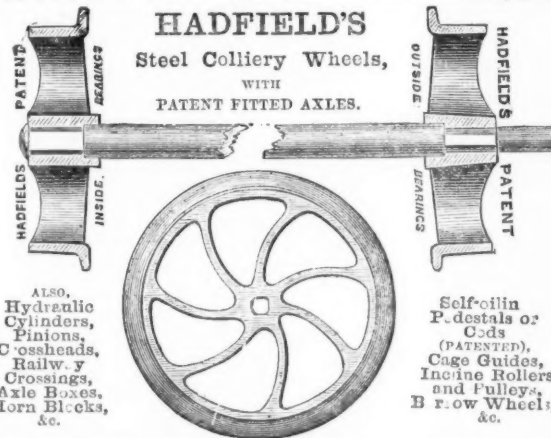
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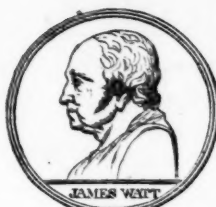
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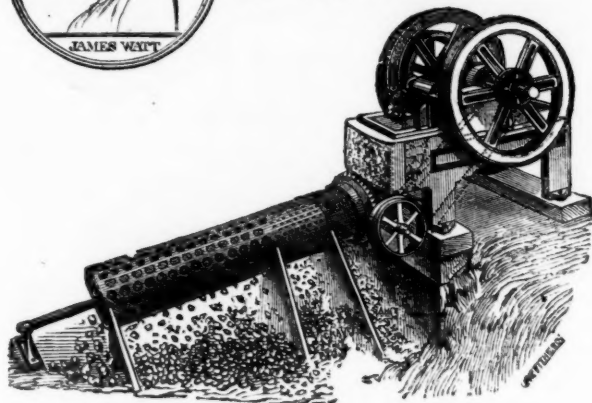
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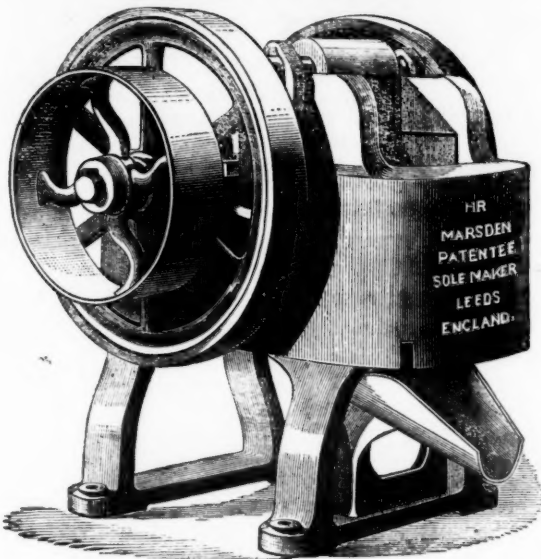
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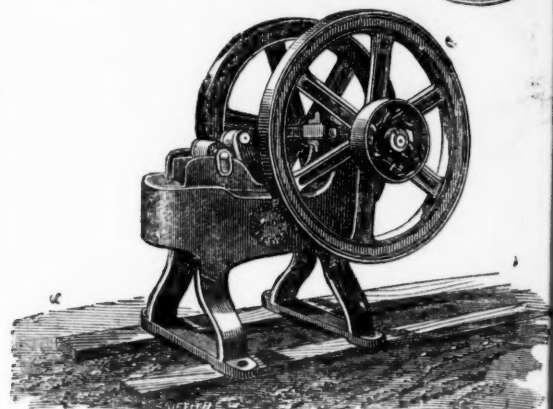
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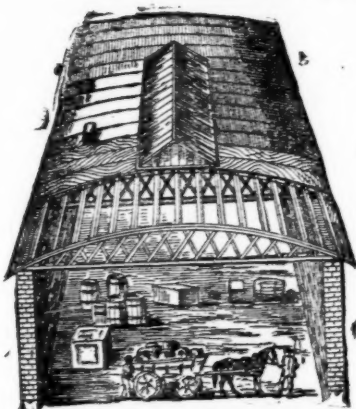
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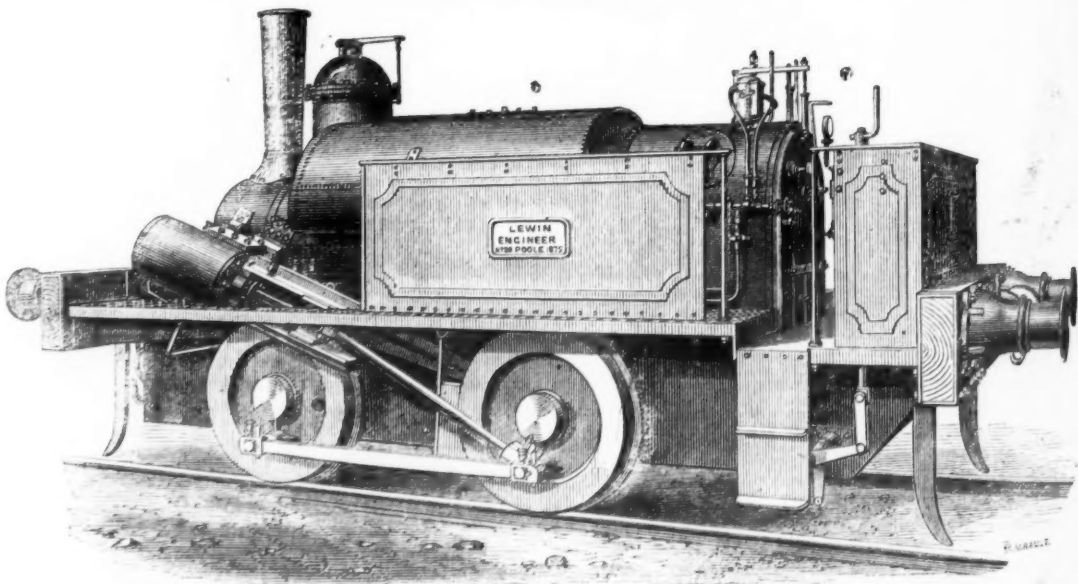
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